Internal Use Only

website:http://biz.LGservice.com

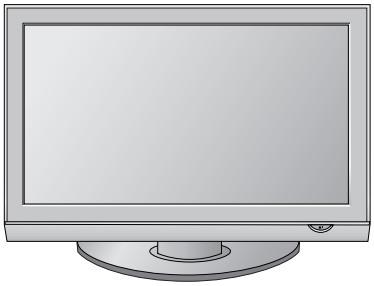
LG

PLASMA TV
SERVICE MANUAL

CHASSIS : PD81A

MODEL : 50PG6000 50PG6000-ZA

CAUTION
BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



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SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ in the Schematic Diagram and Replacement Parts List.
It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.
Do not modify the original design without permission of manufacturer.

General Guidance

An **isolation Transformer should always be used** during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and it's components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this monitor is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

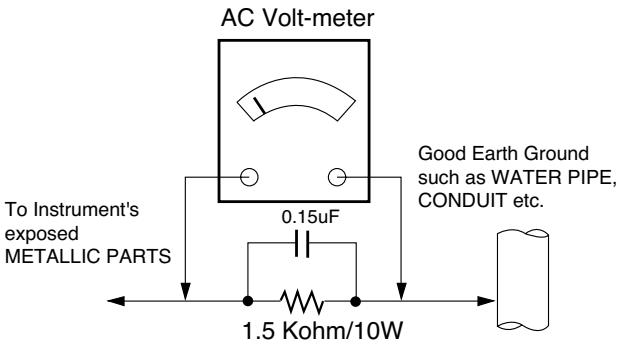
Keep wires away from high voltage or high temperature parts.

Due to high vacuum and large surface area of picture tube, extreme care should be used in **handling the Picture Tube.**
Do not lift the Picture tube by it's Neck.

Leakage Current Cold Check(Antenna Cold Check)
With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.
If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1MΩ and 5.2MΩ.
When the exposed metal has no return path to the chassis the reading must be infinite.
An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)
Plug the AC cord directly into the AC outlet.
Do not use a line Isolation Transformer during this check.
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.
Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.
Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5mA.
In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit



SPECIFICATIONS

NOTE : Specifications and others are subject to change without notice for improvement.

■ Application Range

This spec is applied to the 50” PLASMA TV used PD81A Chassis.

Chassis	Model Name	Market	Brand	Remark
PD81A	50PG6000	Austria,Belgium,Bulgaria,Coratia,Czech,Denmark,Finland, France,Germany,Greece,Hungary,Italy,Luxembourg, Netherlands,Norway,Poland,Portugal,Rumania,Russia,Serbia,Slovenia,Spain,Sweden,Switzerland,UK	LG	

■ Specification

Each part is tested as below without special appointment.

1) Temperature : 25±5°C (77±9°F), CST : 40±5
2) Relative Humidity: 65±10%
3) Power Voltage: Standard Input voltage (100-240V~, 50/60Hz)
   * Standard Voltage of each product is marked by models.
4) Specification and performance of each parts are followed each drawing and specification by part number in accordance with SBOM.
5) The receiver must be operated for about 20 minutes prior to the adjustment.

■ Test Method

1) Performance : LGE TV test method followed.
2) Demanded other specification
   Safety : CB specification
   EMC : CISPR 13 specification

Model	Market	Appliance	Remark
50PG6000-ZA	Austria,Belgium,Bulgaria,Coratia,Czech,Denmark,Finland,France,Germany,Greece,Hungary,Italy,Luxembourg, Netherlands,Norway,Poland,Portugal,Rumania,Russia, Serbia,Slovenia,Spain,Sweden,Switzerland,UK	Safety : IEC/EN60065 EMI : EN55013 EMS : EN55020	

■ General Specification1 (50” WXGA Module)

No	Item	Specification	Remark
1	Display Screen Device	50” Wide Color Display Module	Plasma Display Panel
2	Aspect Ratio	16:9	
3	PDP Module	PDP50G1, RGB Closed(Well) Type, Glass Filter(38%) Pixel Format : 1365horiz. By 768 ver.l	
4	Operating Environment	1)Temp. : 0~40deg 2)Humidity : 20~80%	LGE SPEC.
5	Storage Environment	3)Temp. : -20~60deg 4)Humidity : 10~90%	
6	Input Voltage	100-240V~, 50/60Hz	Maker : LG

■ General Specification2 (50” FHD Module)

No	Item	Specification	Remark
1	Display Screen Device	50” Wide Color Display Module	Plasma Display Panel
2	Aspect Ratio	16:9	
3	PDP Module	PDP50G1, RGB Closed(Well) Type, Glass Filter(38%) Pixel Format : 1365horiz. By 768 ver.	
4	Operating Environment	1)Temp. : 0~40deg 2)Humidity : 20~80%	LGE SPEC.
5	Storage Environment	3)Temp. : -20~60deg 4)Humidity : 10~90%	
6	Input Voltage	100-240V~, 50/60Hz	Maker : LG

■ Module Specification

No	Item	Specification	Remark
1	Market	Austria,Belgium,Bulgaria,Coratia,Czech,Denmark,Finland ,France,Germany,Greece,Hungary,Italy,Luxembourg, Netherlands,Norway,Poland,Portugal,Rumania,Russia, Serbia,Slovenia,Spain,Sweden,Switzerland,UK	25 Country
2	roadcasting system	1) PAL/SECAM BG 2) PAL/SECAM DK 3) PAL I / II 4) SECAM L/L’ 5) DVB T	EU(PAL Marker)
3	Receiving system	Analog : Upper Heterodyne Digital : COFDM	
4	Scart Jack(2EA)	PAL, SECAM	Scart1 Jack is Full scart and support RF-OUT(Analoge) Scart2 Jack is Half scart and support MNT-OUT
5	Video Input (1EA)	PAL, SECAM, NTSC	
6	S-Video Input (1EA)	PAL, SECAM, NTSC	Analog(D-Sub 15Pin)
7	Component Input (1EA)	Y/Cb/Cr, Y/Pb/Pr	HDMI1/DVI,HDMI2,HDMI3,HDMI4
8	RGB Input	RGB-PC	
9	HDMI Input(4EA)	HDMI-PC HDMI-DTV	L/R Input
10	Audio Input (3EA)	RGB/DVI Audio, Component, AV	
11	SPDIF Out(1EA)	SPDIF OUT	Side(X-Studio Only PG60 Series)
12	USB	For SVC, S/W Download, X-Studio	

ADJUSTMENT INSTRUCTION

1. Application Object

These instructions are applied all of the 50" PLASMA TV, PD81A Chassis.

2. Note

(1) Because this is not a hot chassis, it is not necessary to use an isolation transformer. However, the use of isolation transformer will help protect test instrument.
(2) Adjustment must be done in the correct order.
(3) The adjustment must be performed in the circumstance of 25±5°C of temperature and 65±10% of relative humidity if there is no specific designation.
(4) The input voltage of the receiver must keep 100-240V~, 50/60Hz.
(5) The receiver must be operated for about 15 minutes prior to the adjustment.

● After RGB Full white HEAT-RUN Mode, the receiver must be operated prior to adjustment.
● Enter into HEAT-RUN MODE
1) Press the POWER ON KEY on R/C for adjustment.
2) OSD display and screen display PATTERN MODE.
- Select "3. Test Pattern" by using ▲/▼(CH+/-) and press ENTER(■)
- Select "White" by using (◄/►VOL+/-) and press ENTER(■)

* Set is activated HEAT-RUN without signal generator in this mode.
* Single color pattern(RED/BLUE/GREEN) of HEAT-RUN mode uses to check PANEL.

* Using 'power on' button off the control R/C, power on TV.
All adjustment process is executed one time through RS-232C.
Do not connect extrenal input calbe.

3. S/W auto download using the USB Memory stick

* Using 'power on' button of the control R/C, power on TV.
USB file(EPK) version must be bigger than downloaded version of main B/D.

(1) Insert the USB memory sick the PCB ASSEMBLY.
(2) Using 'power on' button of the control R/C, power on TV.
(3) S/W download process is executed automatically.

* Using 'power on' button off the control R/C, power on TV.

4. Auto-control adjustment process

■ All adjustment process is executed one time through RS-232C.
■ Command send -> ADC Calibration -> Model name download -> EDID download.

NO	Item	CMD1	CMD2	Data 0		Remark
1	Ready	a	d	0	0	Ready
2	ADC	a	d	1	0	ADC start
3	ADC Confirmation	a	d	9	9	
4	ADC Mode Out	a	d	9	0	
5	Download Mode In	a	e	0	0	Transmitting adjustment mode In instruction, operate adjustment command.
6	EDID Download	a	e	1	0~4,9	All=0 ; HDMI1,2,3,4=1,2,3,4 ; RGB=9
7	Check EDID Status	a	e	2	0~4,9	All=0 ; HDMI1,2,3,4=1,2,3,4 ; RGB=9
8	Define model name	a	e	5	1~7	Model define index(Data0) are listed at next table.
9	Adjustment Confirmation	a	e	9	9	EDID data existence check in SET assembly
10	Download Mode Out	a	e	9	0	

■ Adjsutment process protocol(RS-232C)

CMD1	CMD2	Data 0		Remark
a	e	5	2	50PG6000-ZA

5. Manual model name download

(1) Press ADJ KEY on R/C for model name D/L.
(2) Select "0.Model Option" and press ENTER(■).
(3) Select model name by using ▲/▼(CH+/-)and press ENTER(■).

Model Name	Model Option Value
50PG6000-ZA	36000000

6. Manual ADC Adjustment

RF Input	AV / Component / RGB input
NO SIGNAL or White noise	NO SIGNAL

■ Adjustment is done using internal ADC, so input signal is not necessary.
■ Do not connect external input cable.

6-1. Required Equipment

(1) Press ADJ KEY on R/C and enter EZ ADJUST.
(2) Select “1.EDID D/L” by using ▲/▼(CH+/-) and press ENTER(■).
(3) Select “Start” by using ◄/►(VOL+/-) and press ENTER(■).
(4) ADC Adjustment is executed automatically.

7. EDID Download

7-1. Required Equipment

*Do not connect HDMI and RGB cable.

(1) Press ADJ KEY on R/C and enter EZ ADJUST.
(2) Select “5.EDID D/L” by using ▲/▼(CH+/-) and press ENTER(■).
(3) Select “Start” and press ENTER(■).
(4) EDID download is executed automatically.
(5) Press EXIT key on R/C.

7-2. EDID DATA

(1) HDMI1(256bytes)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	ⓐ		ⓑ			
10	ⓒ		01	03	80	46	27	78	EA	D9	B0	A3	57	49	9C	25
20	11	49	4B	A1	08	00	31	40	45	40	61	40	81	80	90	40
30	A9	40	D1	C0	01	01	1A	36	80	A0	70	38	1F	40	30	20
40	35	00	E8	26	32	00	00	1A	1B	21	50	A0	51	00	1E	30
50	48	88	35	00	BC	86	21	00	00	1C	00	00	00	FD	00	39
60	4B	1F	54	12	00	0A	20	20	20	20	20	20	ⓓ			
70	ⓓ												0A	20	01	ⓔ

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	02	03	21	F1	4E	81	02	03	15	12	13	04	14	05	20	21
10	22	1F	10	23	15	07	50	83	01	00	00	65	03	0C	00	10
20	00	01	1D	00	80	51	D0	1C	20	40	80	35	00	BC	88	21
30	00	00	1E	8C	0A	D0	8A	20	E0	2D	10	10	3E	96	00	13
40	8E	21	00	00	18	02	3A	80	18	71	38	2D	40	58	2C	45
50	00	06	44	21	00	00	1E	01	1D	80	18	71	1C	16	20	58
60	2C	25	00	C4	8E	21	00	00	9E	4E	1F	00	80	51	00	1E
70	30	40	80	37	00	BC	88	21	00	00	18	00	00	18	00	ⓔ

(2) RGB(128bytes)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	ⓐ		ⓑ			
10	ⓒ		01	03	01	46	27	78	EA	D9	B0	A3	57	49	9C	25
20	11	49	4B	A1	08	00	31	40	45	40	61	40	81	80	90	40
30	D1	C0	01	01	01	01	1A	36	80	A0	70	38	1F	40	30	20
40	35	00	E8	26	32	00	00	1A	DA	2F	78	E0	51	1A	25	40
50	58	98	14	00	E8	26	32	00	00	1A	00	00	00	FD	00	39
60	4B	1F	54	12	00	0A	20	20	20	20	20	20	ⓓ			
70	ⓓ												20	20	00	ⓔ

-> Detail EDID Options are below (ⓐ, ⓑ, ⓒ, ⓓ, ⓔ)

ⓐ Product ID

Model Name	EDID MODEL	Product ID	FUCTION
50PG6000-ZA	50PG6000-ZA	50097(C3B1)	Analog
		50098(C3B2)	Digital

ⓑ Serial No
=> Controlled on production line

ⓒ Month, Year
=> Controlled on production line:
ex) Monthly: ‘11’ -> ‘0B’
Year: ‘2007’ -> ‘11’

ⓓ Model Name(Hex)

Model Name	Model Name(Hex)
50PG6000	00 00 00 FC 00 35 30 50 47 36 30 30 30 0A 20 20 20 20

ⓔ Checksum
=> Changeable by total EDID data.

8. PCMCIA CARD Checking Method

: You must adjust DTV29 Channel and insert PCMCIA CARD to socket.

1) If PCMCIA CARD works normally, normal signals display on screen. But it works abnormally, “No CA module” words display on screen.

* Set up “RF mode” before launching products.

Each PCB assembly must be checked by check JIG set. (Because power PCB Assembly damages to PDP Module, especially be careful)

9. POWER PCB Assy Voltage Adjustments (Va, Vs Voltage adjustments)

9-1. Test Equipment : D.M.M. 1EA

9-2.Connection Diagram for Measuring

: refer to Fig.1

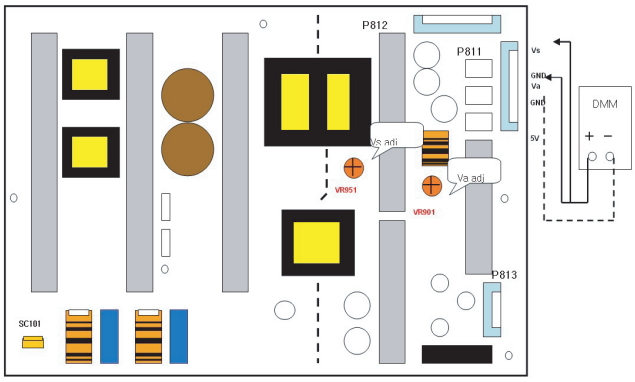
9-3. Adjustment Method

(1) Va Adjustment

1) After receiving 100% Full White Pattern, HEAT RUN.
2) Connect + terminal of D.M.M to Va pin of P811, connect - terminal to GND pin of P811.
3) After turning VR901, voltage of D.M.M adjustment as same as Va voltage which on label of panel right/top. (Deviation; ±0.5V)

(2) Vs Adjustment

1) Connect + terminal of D.M.M to Vs pin of P811, connect – terminal to GND pin of P811.
2) After turning VR951, voltage of D.M.M adjustment as same as Va voltage which on label of panel right/top. (Deviation; ±0.5V)



(Fig.1) Connection diagram of power adjustment for measuring

* Before adjusting White-balance, the AV ADC should be done. If ADC status were “NG”, Need to ADC adjustment.

10. Adjustment of White Balance

10-1. Required Equipment

(1) Color Analyzer : CS-100, CA-100+(CH.10), CA-210(CH.10))
* Please adjust CA-100+/CA-210 by CS-1000 before measuring.
-> You should use Channel 10 which is Matrix compensated.

◆ Color temperature standards according to CSM and Module.

CSM	PLASMA	Remark
Cool	11000K	
Normal	9300K	
Warm	6500K	

◆ Change target luminance and range of the Auto adjustment W/B equipment.

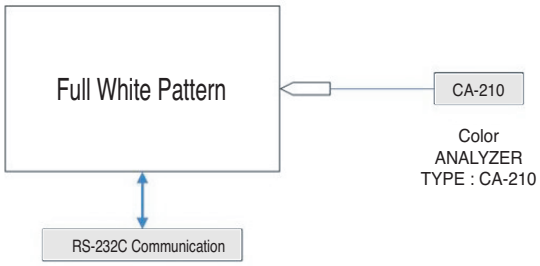
Target luminance	65
Range	20

◆ White balance adjustment coordinate and color temperature.

Cool	CS-1000	CA-100+(CH.10)	CA-210(CH.10)
X	0.276	0.276±0.002	0.276±0.002
y	0.283	0.283±0.002	0.283±0.002
△uv	0.000	0.000	0.000
Medium	**CS-1000**	**CA-100+(CH.10)**	**CA-210(CH.10)**
X	0.285	0.285±0.002	0.285±0.002
y	0.293	0.293±0.002	0.293±0.002
△uv	0.000	0.000	0.000
Warm	**CS-1000**	**CA-100+(CH.10)**	**CA-210(CH.10)**
X	0.313	0.313±0.002	0.313±0.002
y	0.329	0.329±0.002	0.329±0.002
△uv	0.003	0.003	0.003

10-2. Connection Picture of the Measuring Instrument(On Automatic control)

(1) Inside PATTERN is used when W/B is controlled. Connect to auto controller or push control R/C IN-START -> Enter the mode of White-Balance, the pattern will come out.



(Fig.6) Auto AV(CVBS) Color Balance Test Pattern

10-3. Auto-control interface and directions

(1) Adjust in the place where the influx of light like floodlight around is blocked.(illumination is less than 10ux)
(2) Measure and adjust after sticking the Color Analyzer(CA-100+, CA210) to the side of the module.
(3) Aging time
- After aging start, keep the power on(no suspension of power supply) and heat-run over 15 minutes.
- keep white pattern using inside pattern.

■ Auto adjustment Map(RS-232C)

		RS-232C COMMAND [CMD ID DATA]			Min	CENTER (DEFAULT)			MAX
		Cool	Med	Warm		Cool	Med	Warm	
R Gain		jg	Ja	js	00	192	192	192	255
G Gain		jh	Jb	je	00	192	192	192	255
B Gain		ji	Jc	jf	00	192	192	192	255
50PG1	R Offset					62	63	66	128
	G Offset					58	57	62	128
	B Offset					71	71	64	128

11. Adjustment of White Balance

(1) Press ADJ KEY on R/C and enter EZ ADJUST.
Select “3. Test Pattern” by using ▲/▼(CH+/-) and press ENTER(■)
Select “White” by using ◄/►(VOL+/-) and press ENTER(■) and heat run over 15minutes.
(2) Zero Calibrate CA-100+/CA-210, and when controlling, stick the sensor to the center of PDP module.
(3) Press ADJ KEY on R/C and enter EZ ADJUST.
Select “2. White Balance” and press ►(VOL +).
Set test-pattern on and display inside pattern.
(5) Control is carried out on three color temperatures, COOL, MEDIUM,WARM.
(Control is carried out thress times)

<Temperature : COOL>
- R-Cut / G-Cut / B-Cut is set to 64/
- Control R-Gain and G-Gain.
- Each Gain is limited to 192.

<Temperature : MEDIUM>
- R-Cut / G-Cut / B-Cut is set to 64/
- Control R-Gain and G-Gain.
- Each Gain is limited to 192.

<Temperature : WARM>
- R-Cut / G-Cut / B-Cut is set to 64/
- Control G-Gain and B-Gain.
- Each Gain is limited to 192.

12. Input the Shipping Option Data

1) Push the IN-START key in a Adjust Remocon.
2) Input the Option Number that was specified in the BOM, into the Shipping area.
3) The work is finished, Push ■ Key.

13. Set Information (Serial No& Model name)

13-1. Check the serial number & Model Name

(1) Push the menu button in DTV mode.
(2) Select the SETUP -> Diagnostics -> To set.
(3) Check the Serial Number.

14. SET factoring condition

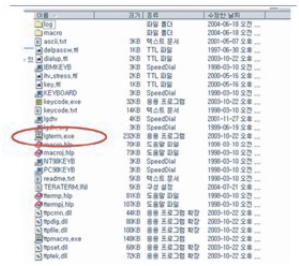
(1) This adjustment is setting factory shipment mode.
(2) Push the IN-STOP key of adjustment remote controller before the factory shipment.

No	Item			Condition	Remark
1	Input Mode			Antenna	
2	Volume Level			10	
3	Mute			Off	
4	Aspect Ratio			16:9	
5	SET ID			1	
6	Picture	PSM		Vivid	
		Color Temp.		Medium	
		Advanced	Cinema	Off	
			Black level	Auto	
7	Sound	SSM		Standard	
		AVL		Off	
		Balance		0	
		TV Speaker		On	
8	Time	Auto Clock		On	
		Manual Clock		--	
		Off Timer / On Timer Sleep Timer / Auto Off		Off	
9	Option	SIMPLINK		On	
		Key Lock		Off	
		ISM Method		Normal	
		Power Saving		Off	
10	Channel Memory		Analog		
			Digital		

15. Flash Memory Download

15-1. Configuration Environment

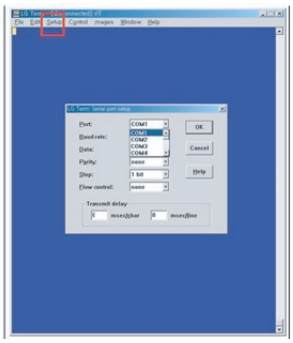
(1) To installation the 'LG Term', extract 'lgterm.zip' to a folder.
(2) Execute 'lgterm.exe'.



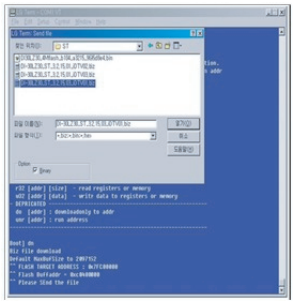
(3) Before downloading epk file, change the baud-rate value.
  1) Press the 'IN-START' button.
  2) Select the 'System' menu.
  3) Enter '115200bps' on the 'Baudrate'.
  4) Exit the menu.

15-2. Download epk file using 'LG Term'

(1) Execute 'lgterm.exe'
(2) Select a serial port and change a baud-rate value.
  1) Select a serial port which is connected through a RS-232 cable on 'Setup' Menu.
  * If the selected port is not connected, a warning message will appear.
  2) Change the baud-rate from a default value to '115200bps' on 'Setup' Menu.



(3) Press the OK button.
(4) Turn on the TV set and press the 'Enter' key at the same time.
(5) Douglas prompt will appear.
(6) Insert 'swuhz' and enter.
(7) Change the baud-rate to '460800bps' on 'Setup' Menu.
(8) Press 'Alt+F', 'T', 'Z', 'S' in order.
(9) Select the epk file.

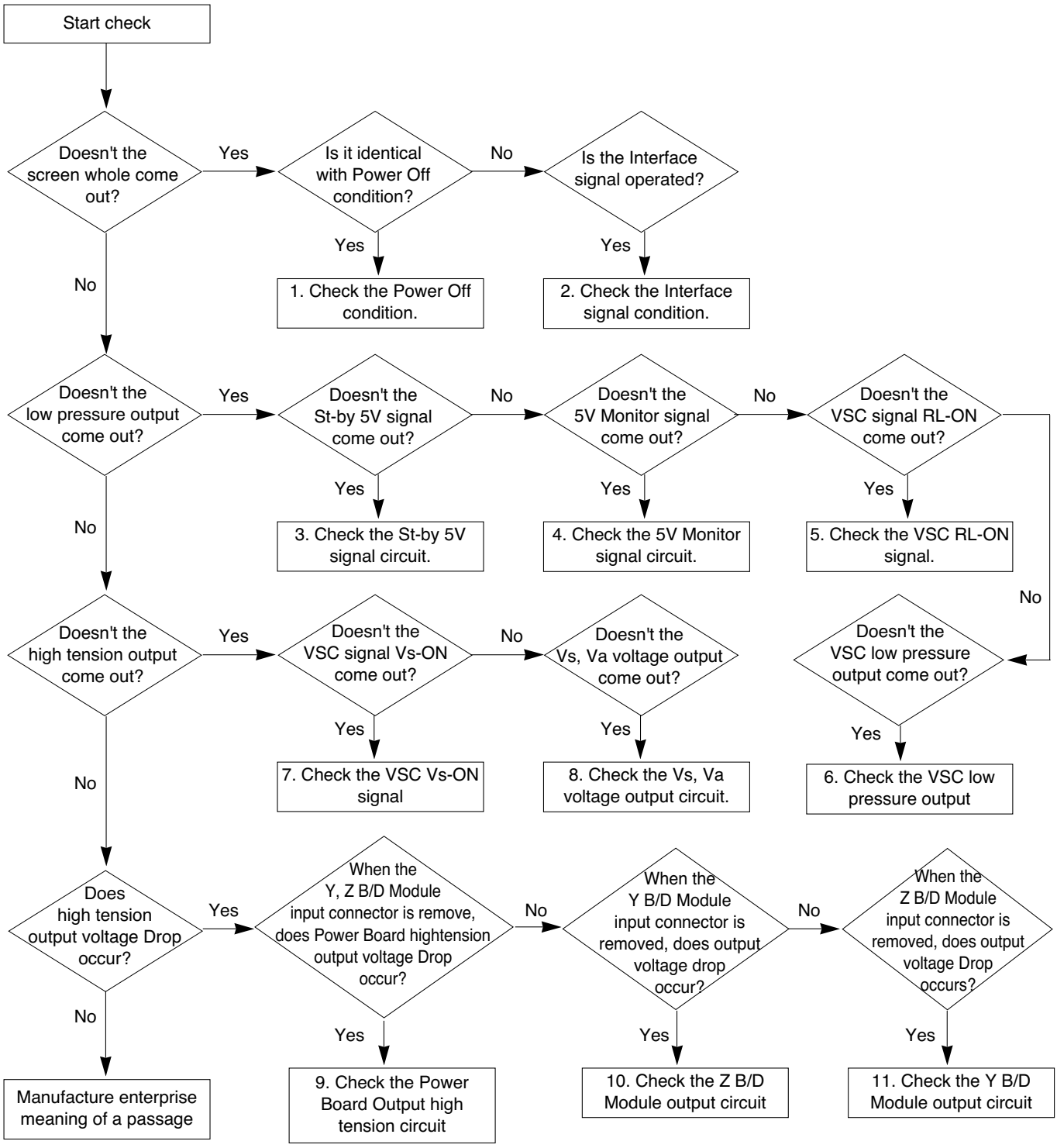


(10) It will take 4~5 minutes.
(11) To apply last epk file, TV set should be restarted.

TROUBLE SHOOTING GUIDE

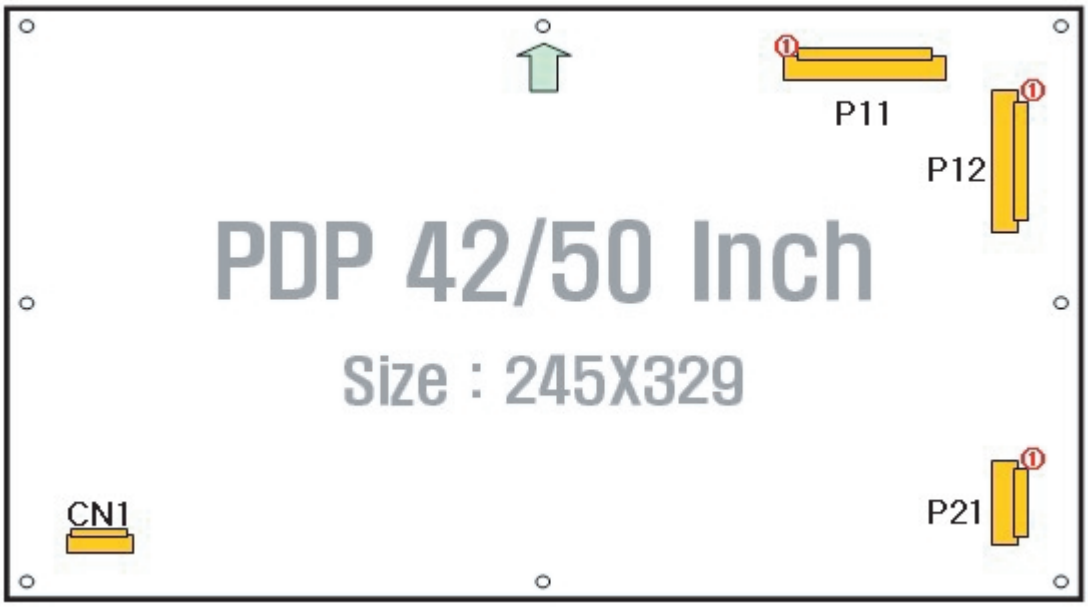
1. Power Board

1-1. The whole flowchart which it follows in voltage output state



1-2. Power Board Structure

(1) Pin Layout



(2) Pin Spec

NO	AC INLET	PDP MODULE	
	CN1	P11	P12
1	AC	Vs	Vs
2	NC	Vs	Vs
3	AC	NC	NC
4		GND	GND
5		GND	GND
6		Va	Va
7		Va	Va
8		GND	GND
9		M5V	M5V
10		M5V	M5V
Wafer P/N	YH396-03P	YH396-10P	YH396-10P

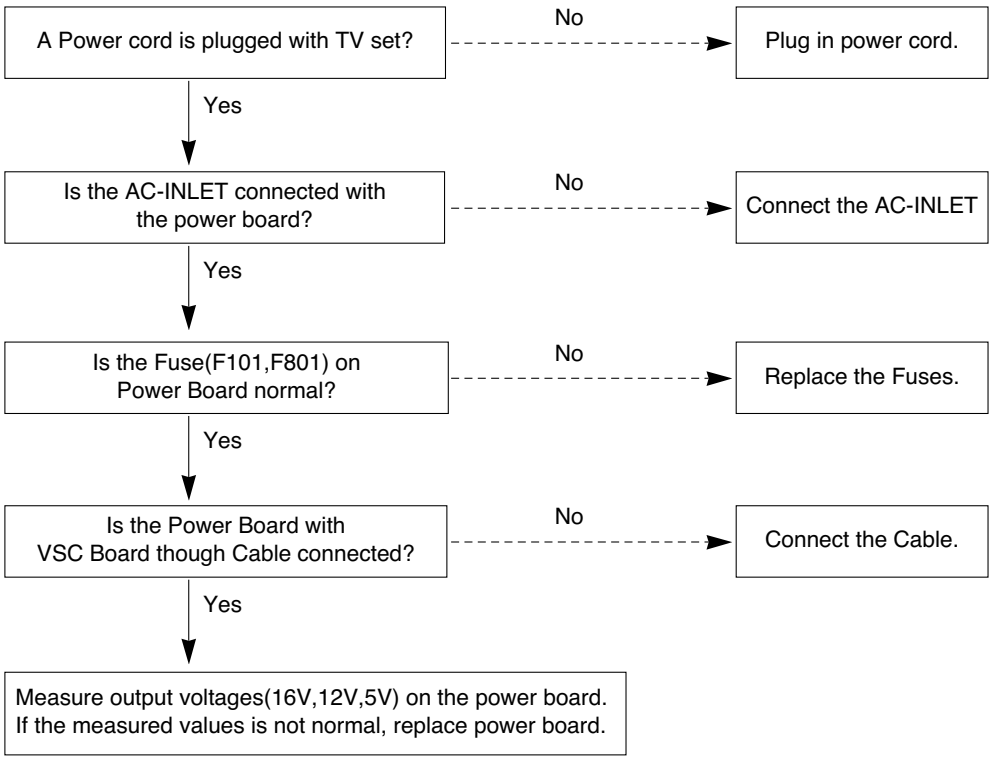
NO	VSC BOARD	
	P21	
1/2	16V	16V
3/4	GND	GND
5/6	12V	12V
7/8	GND	GND
9/10	5V	5V
11/12	5V	5V
13/14	GND	GND
15/16	GND	GND
17/18	5V_MNT	AC_DET
19/20	RL_ON	VaVs_ON
21/22	M5V_ON	GND
Wafer P/N	SMW200-22C	

2. No Power

(1) Symptom

1) Doesn't minute discharge at module.
2) Non does not come in into the front LED.

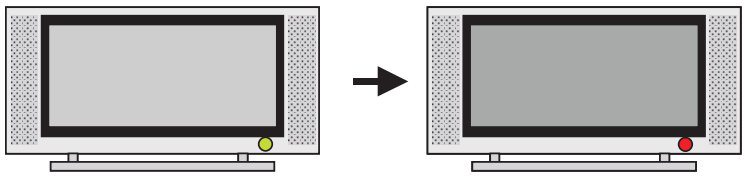
(2) Check following



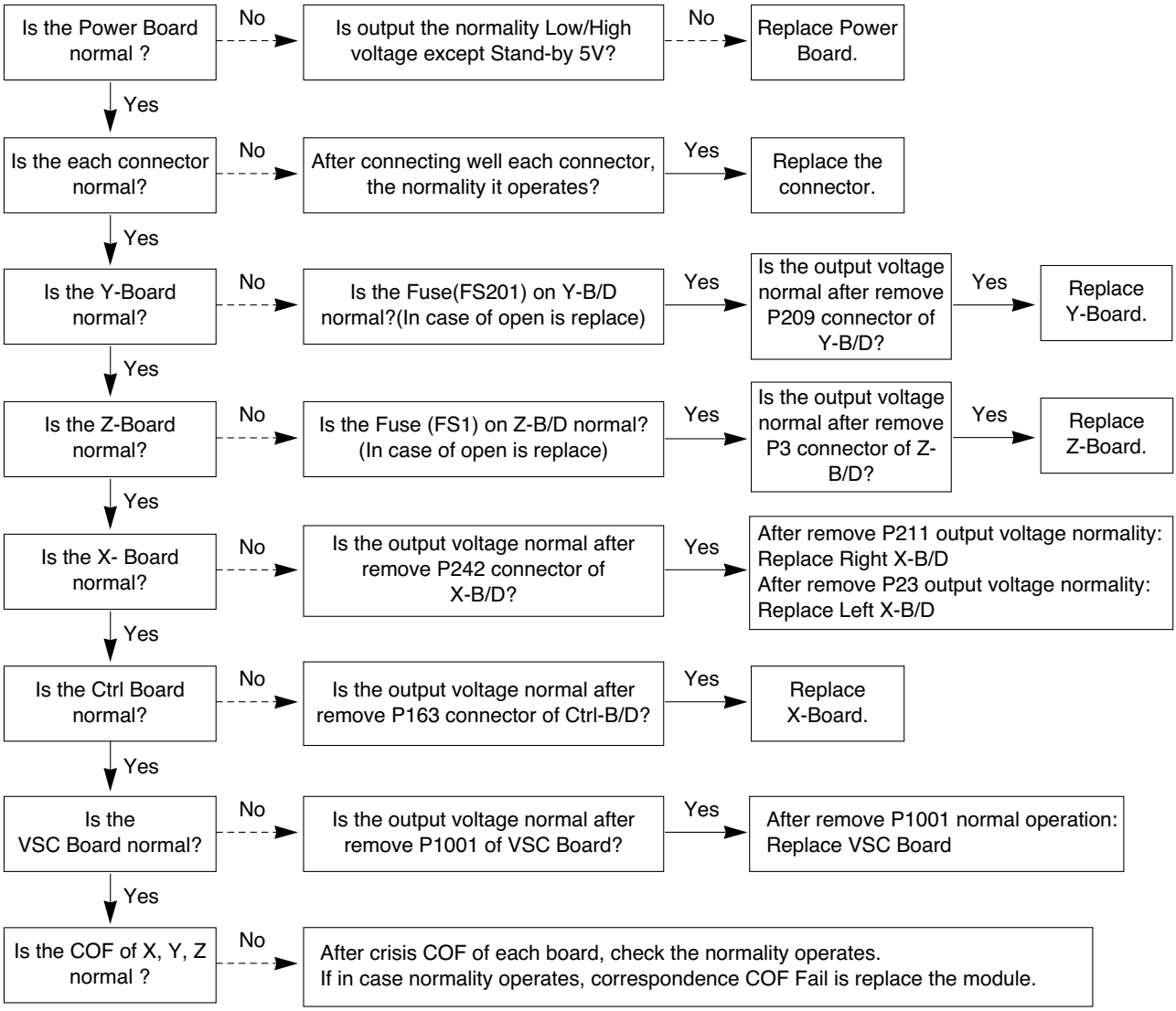
3. Protect Mode

(1) Symptom

1) After once shining, it does not discharge minutely from module.
2) The Rely falls.(The sound is audible “click”)
3) It is converted with the color where the front LED is red from green.



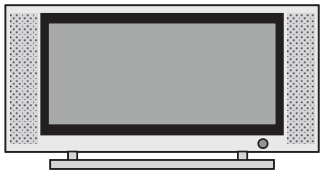
(2) Check following



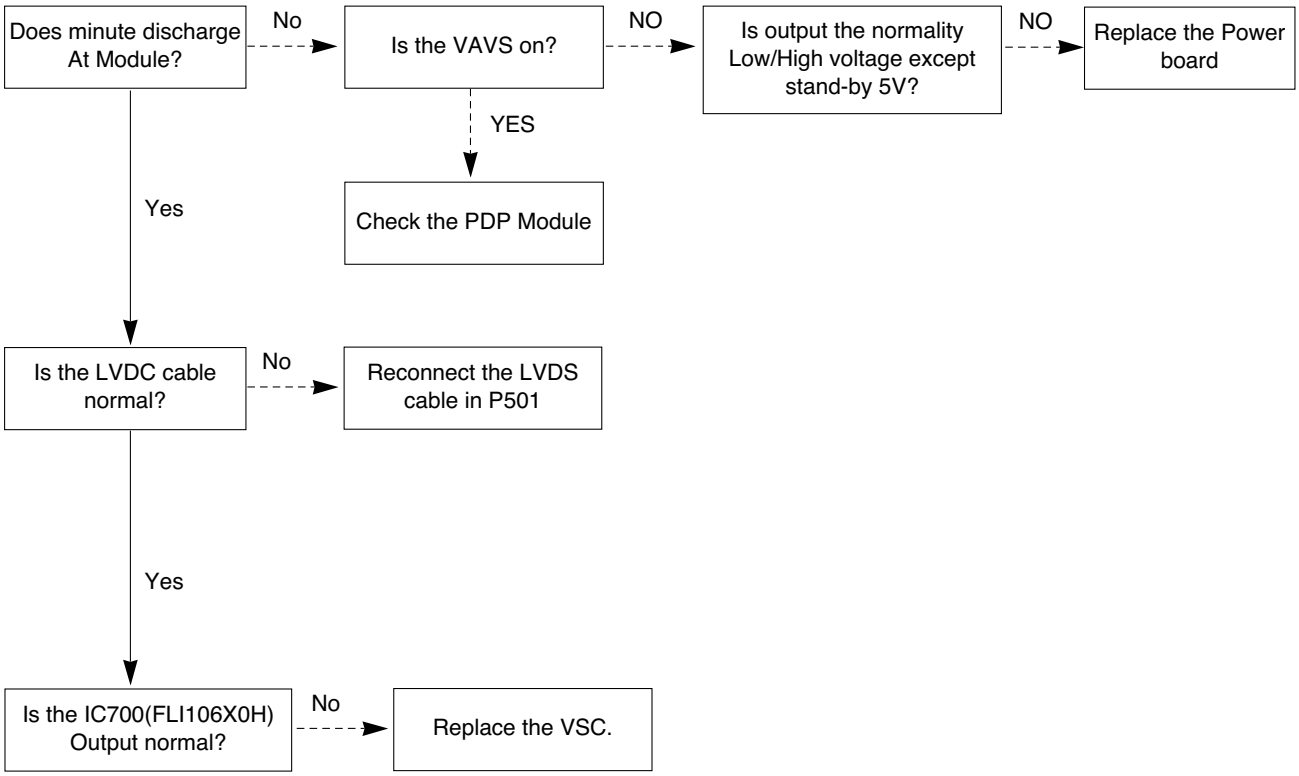
4. No Raster

(1) Symptom

1) No OSD and image occur at screen.
2) It maintains the condition where the front LED is green.



(2) Check following

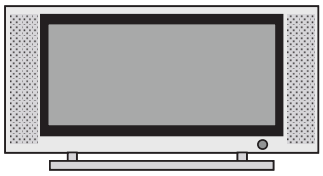


5. In case of occurring strange screen into specific mode

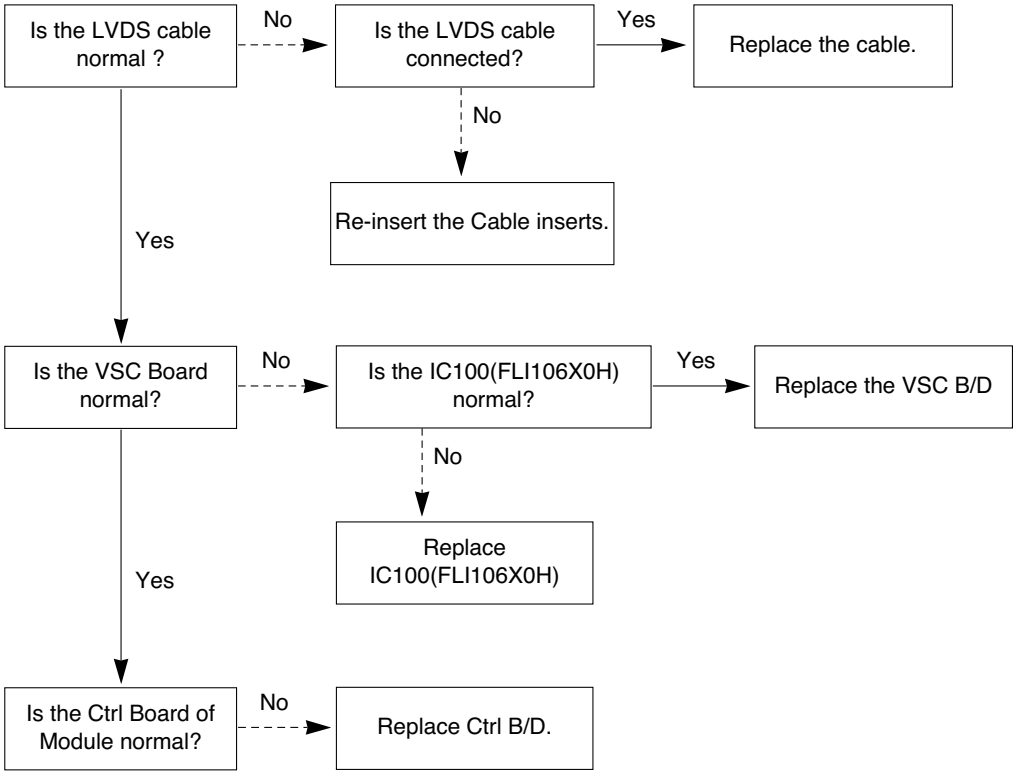
5-1. In case the OSD does not displayed

(1) Symptom

1) LED is green.
2) The minute discharged continuously becomes Accomplished from module.



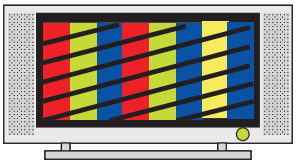
(2) Check following



5-2. In case of does't display the screen into specific mode

(1) Symptom

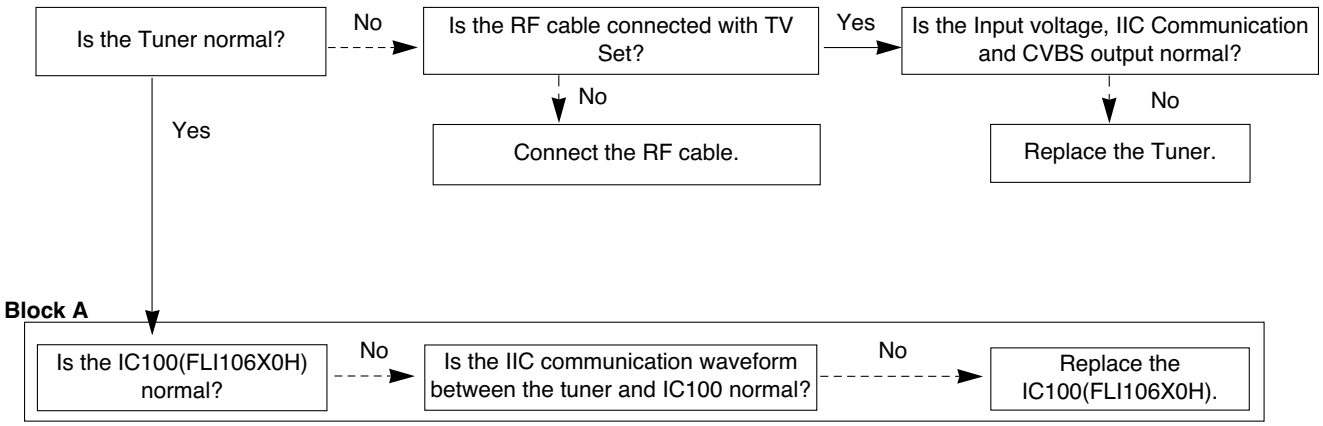
1) The screen does not become the display from specific input mode (RF, AV, Component, RGB, DVI).



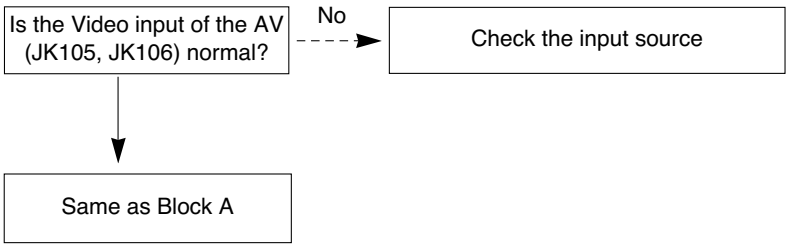
(2) Check following

1) Check the all input mode should become normality display.

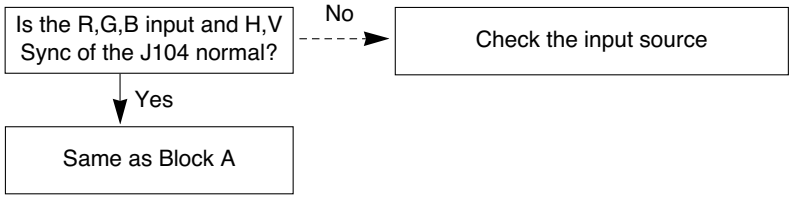
(3) In case of becomes unusual display from RF mode



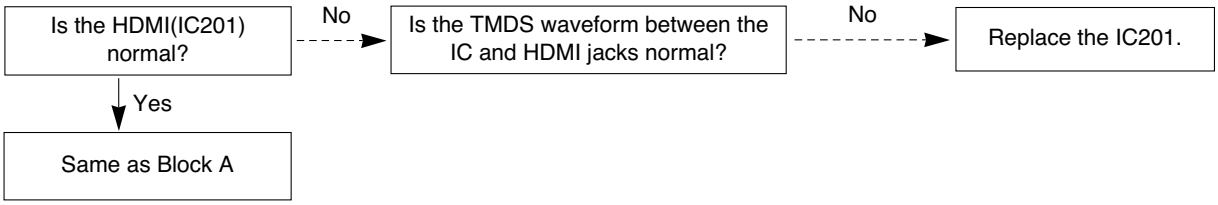
(4) In the case of becomes unusual display from side S-video/AV mod



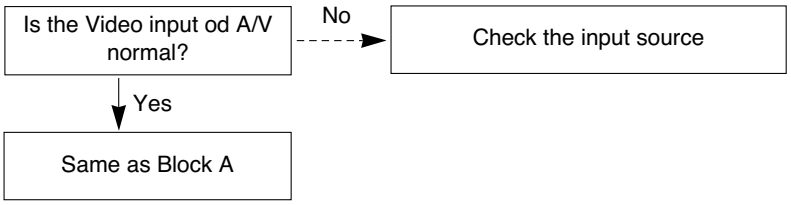
(5) In the case of becomes unusual display from Component, RGB mode



(6) In the case of becomes unusual display from HDMI mode



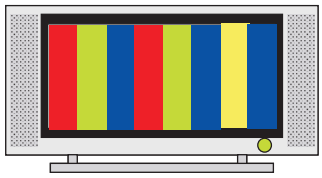
(7) In the case of becomes unusual display from SCART mode



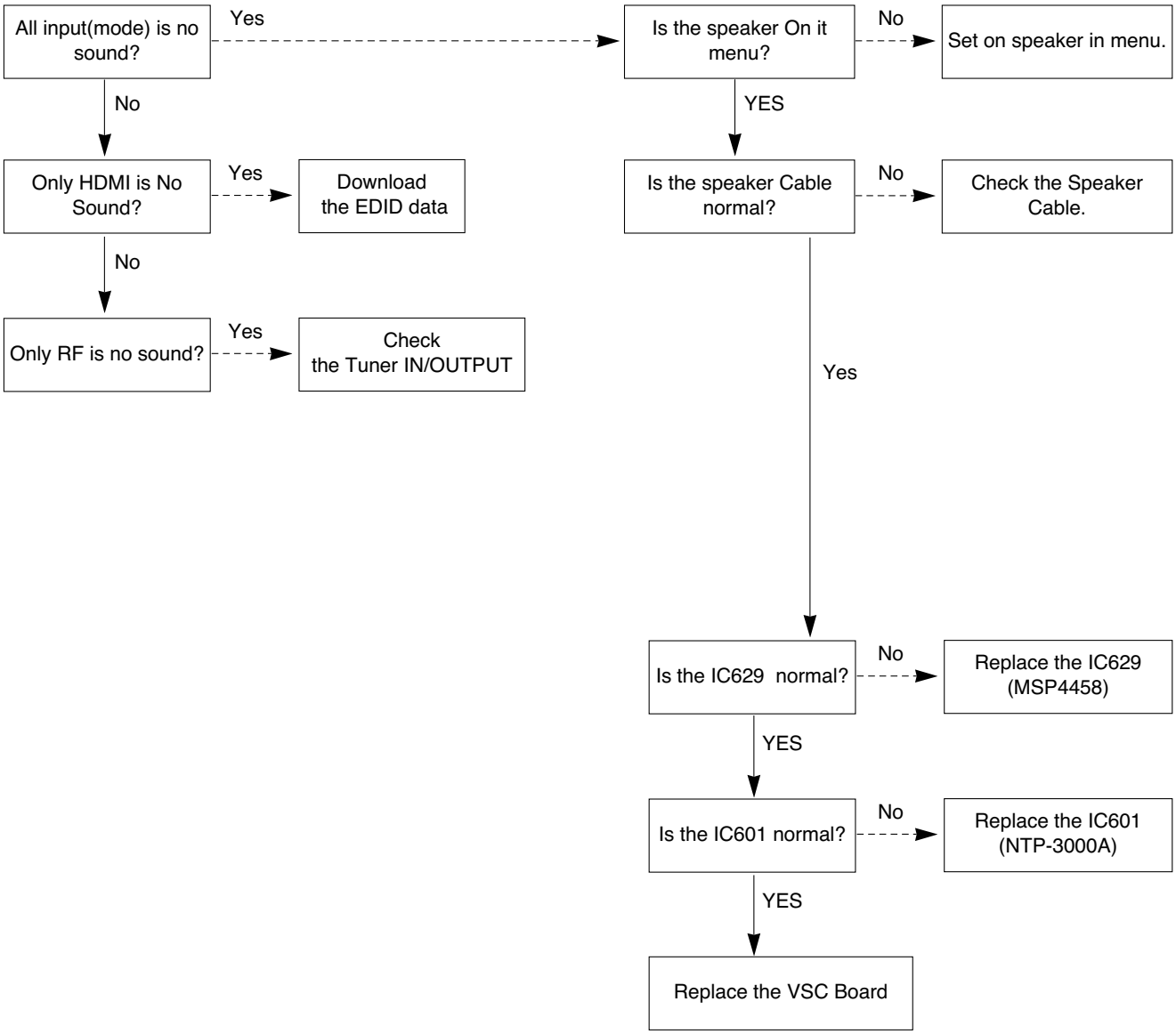
6. In case of no sound

(1) Symptom

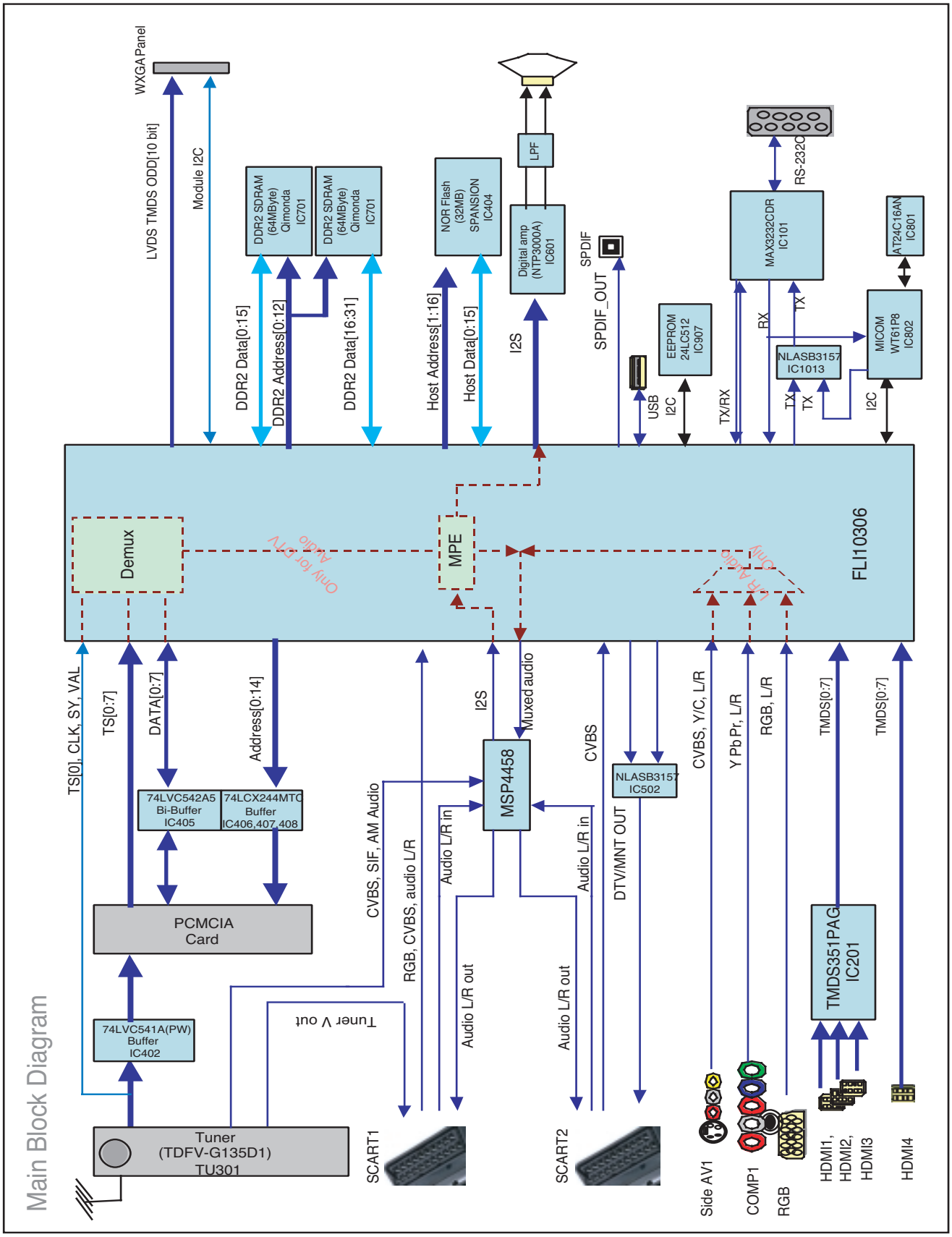
1) LED is Green.
2) Screen display but sound is not output.



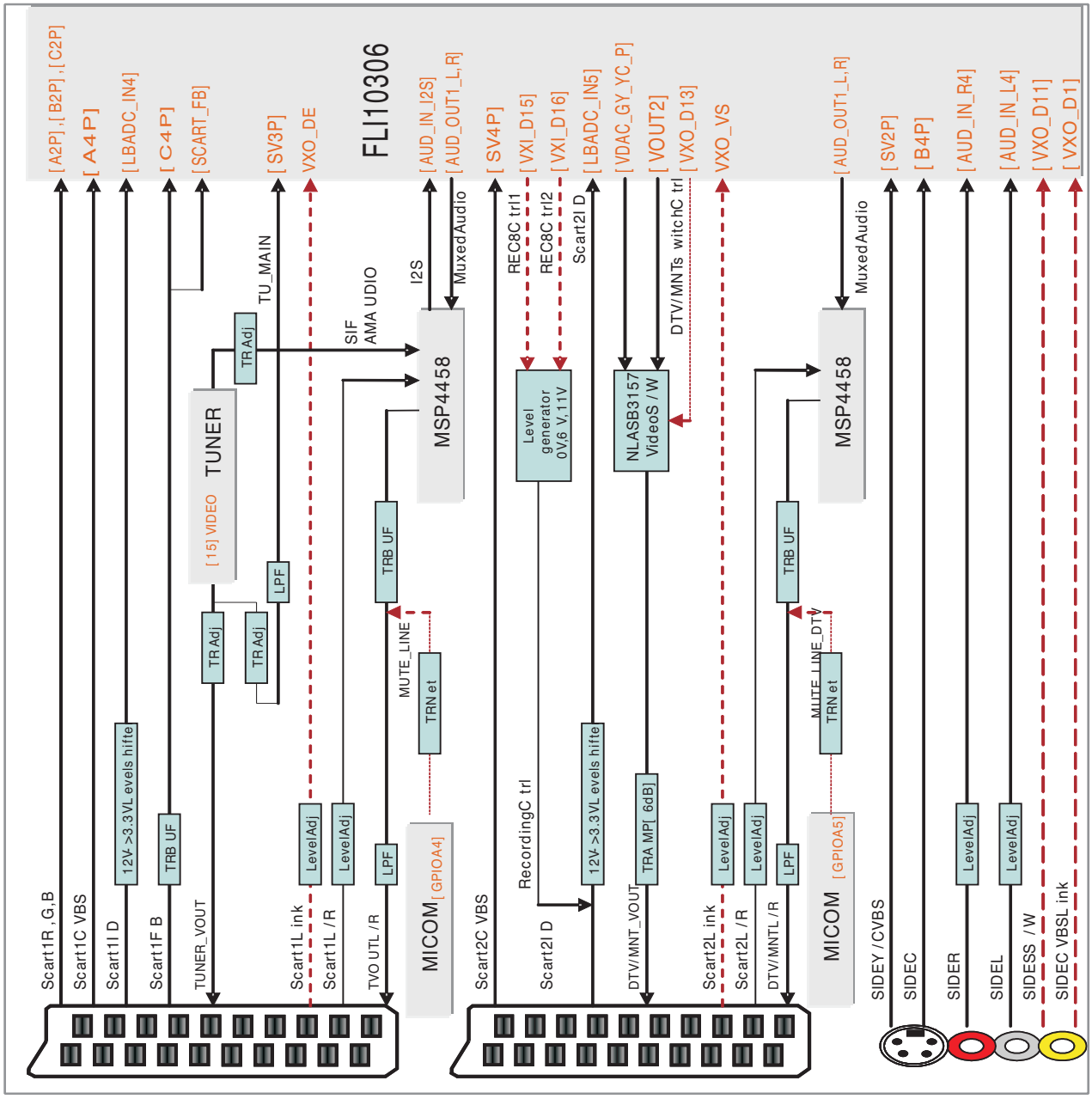
(2) Check following

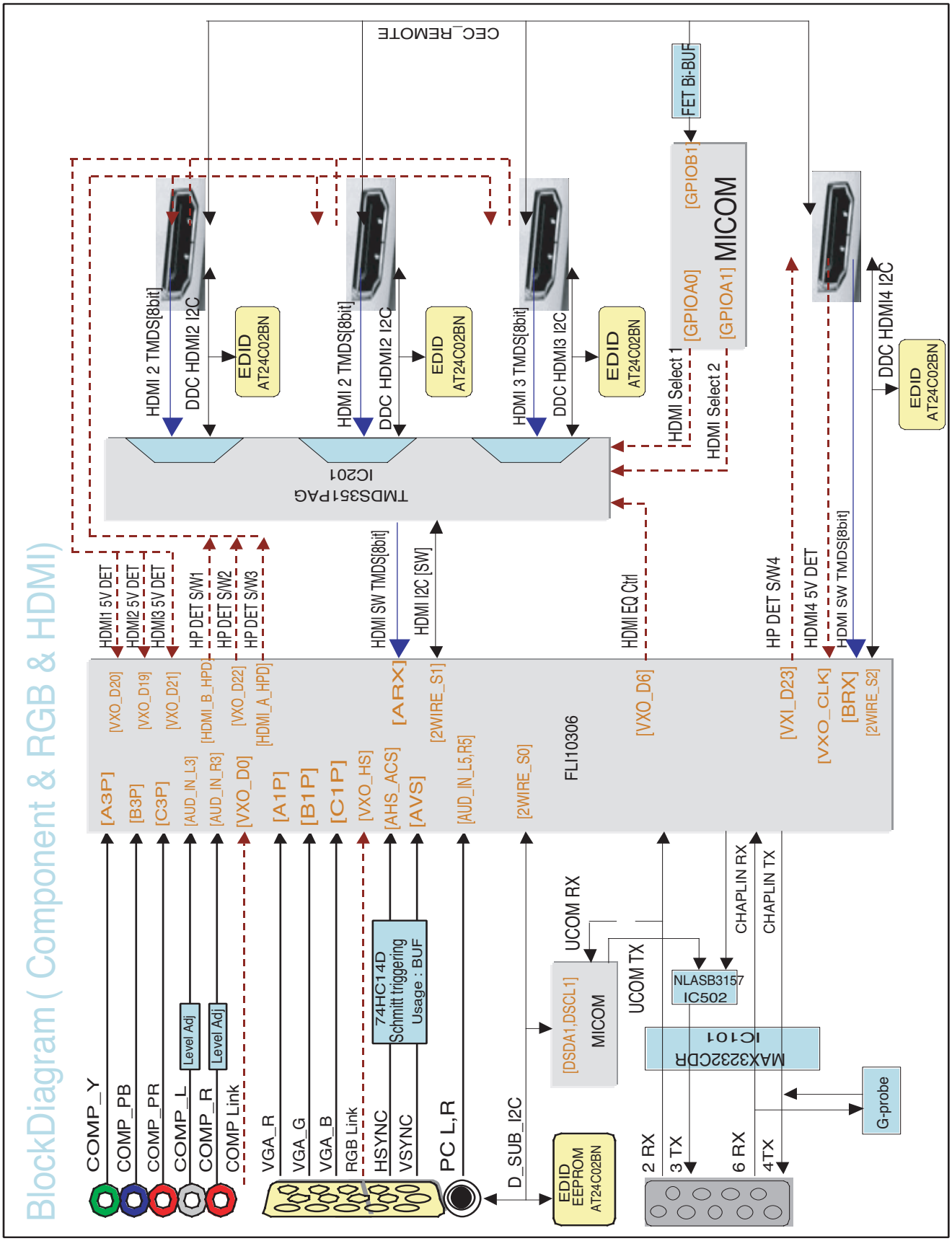


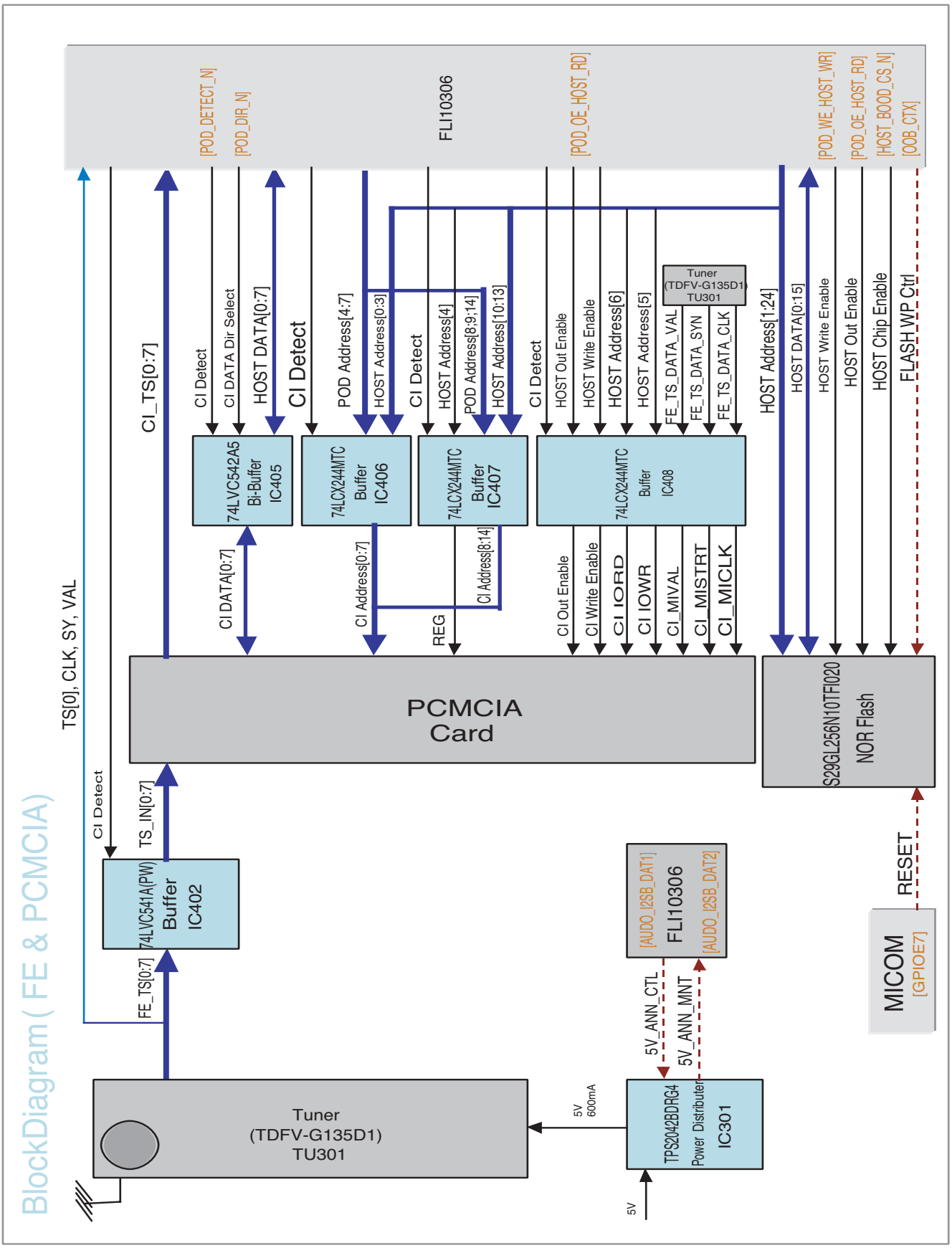
BLOCK DIAGRAM

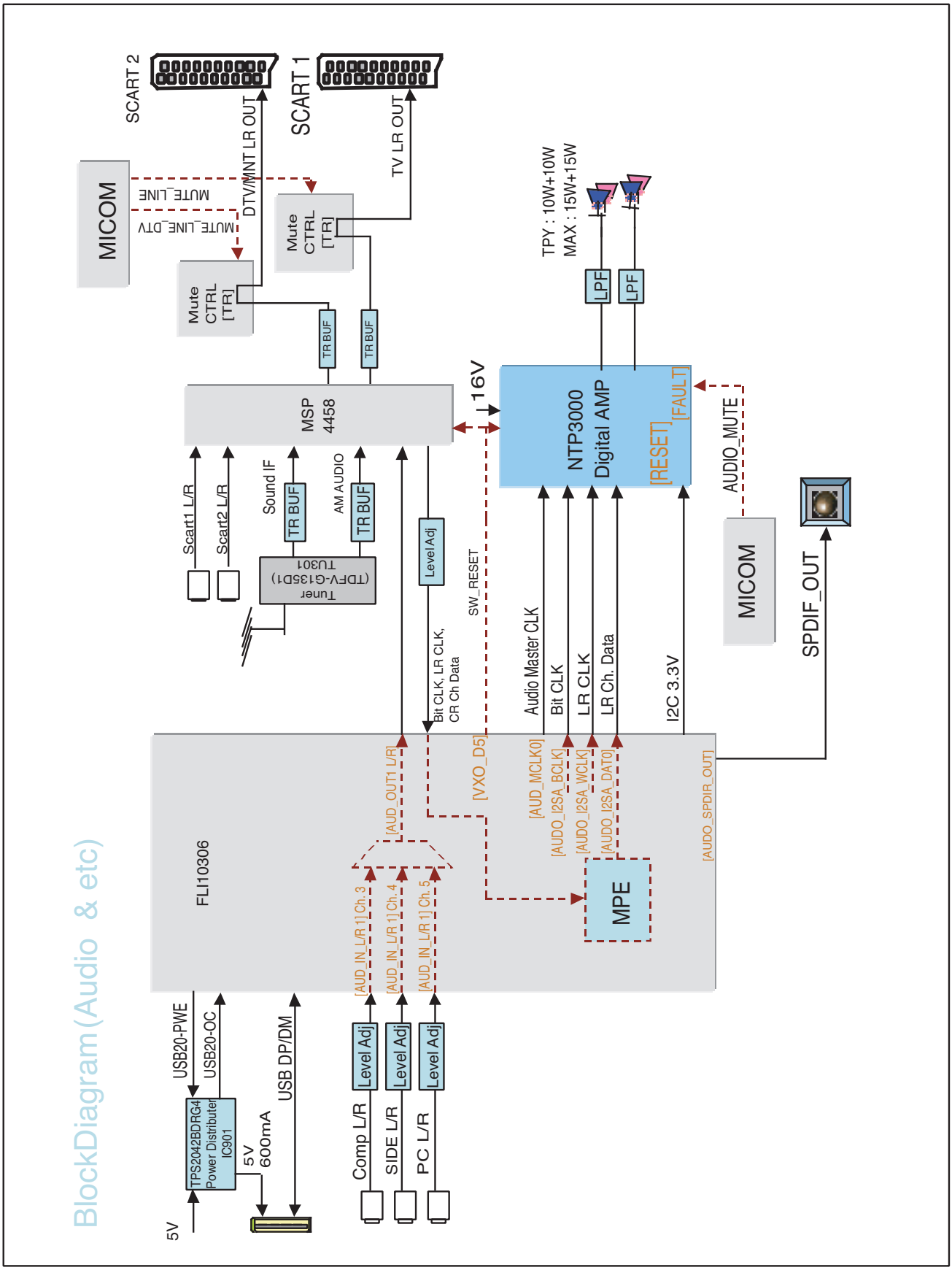


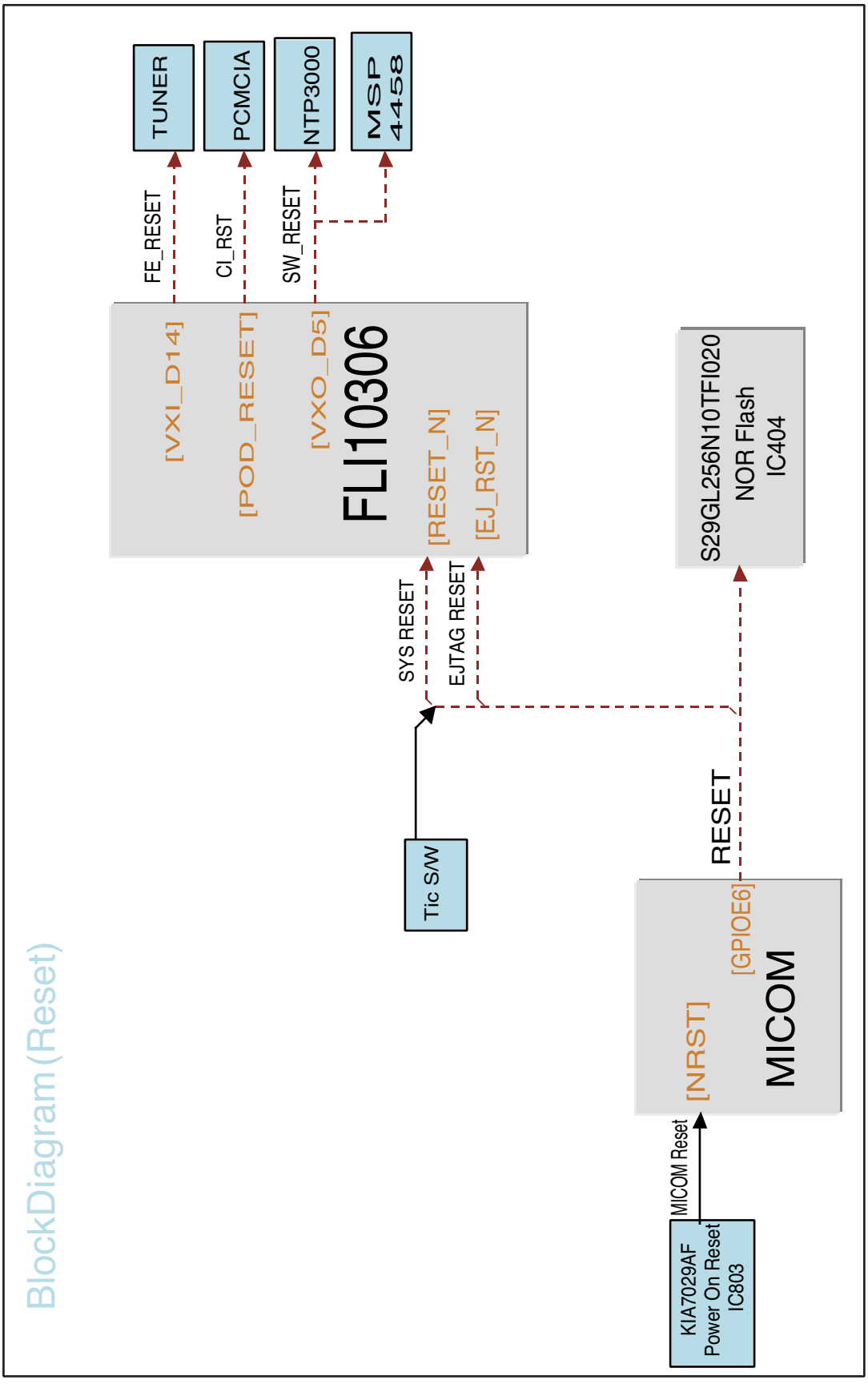
SCART 1	SCART 2
1:Audio R out (TV)	1:Audio R out (DTV)
2:audio R in	2:audio R in
3:audio L out (TV)	3:audio L out (DTV)
4:audio GND	4:audio GND
5:blue GND	5:GND
6:audio L in	6:audio L in
7:Blue	7:NC
8:SCART ID	8:function select
9:green GND	9: NC
10:data 2 (NC)	10:data 2 (NC)
11:Green	11:NC
12:data1 (NC)	12:data1 (NC)
13: Link (red GND)	13: Link
14:data GND (NC)	14:data GND (NC)
15:Red	15: NC
16:SCART FB	16: NC
17:video GND	17:video GND
18:RGB Control GND	18:GND
19:CVBS out (TV out)	19:CVBS out (DTV out)
20:CVBS in	20:CVBS in
21:safety GND	21:safety GND
22:GND	22:GND
23:GND	23:GND

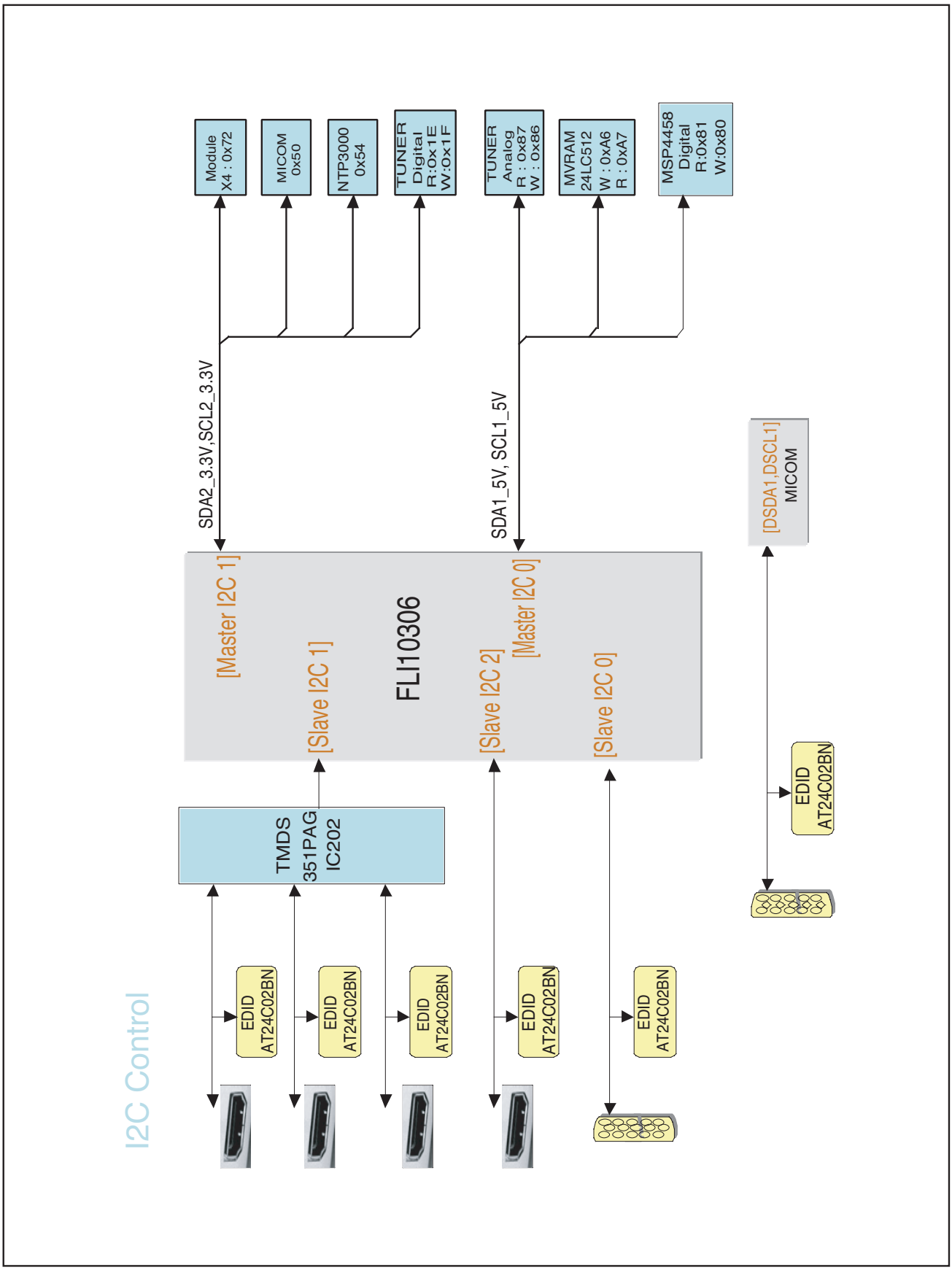


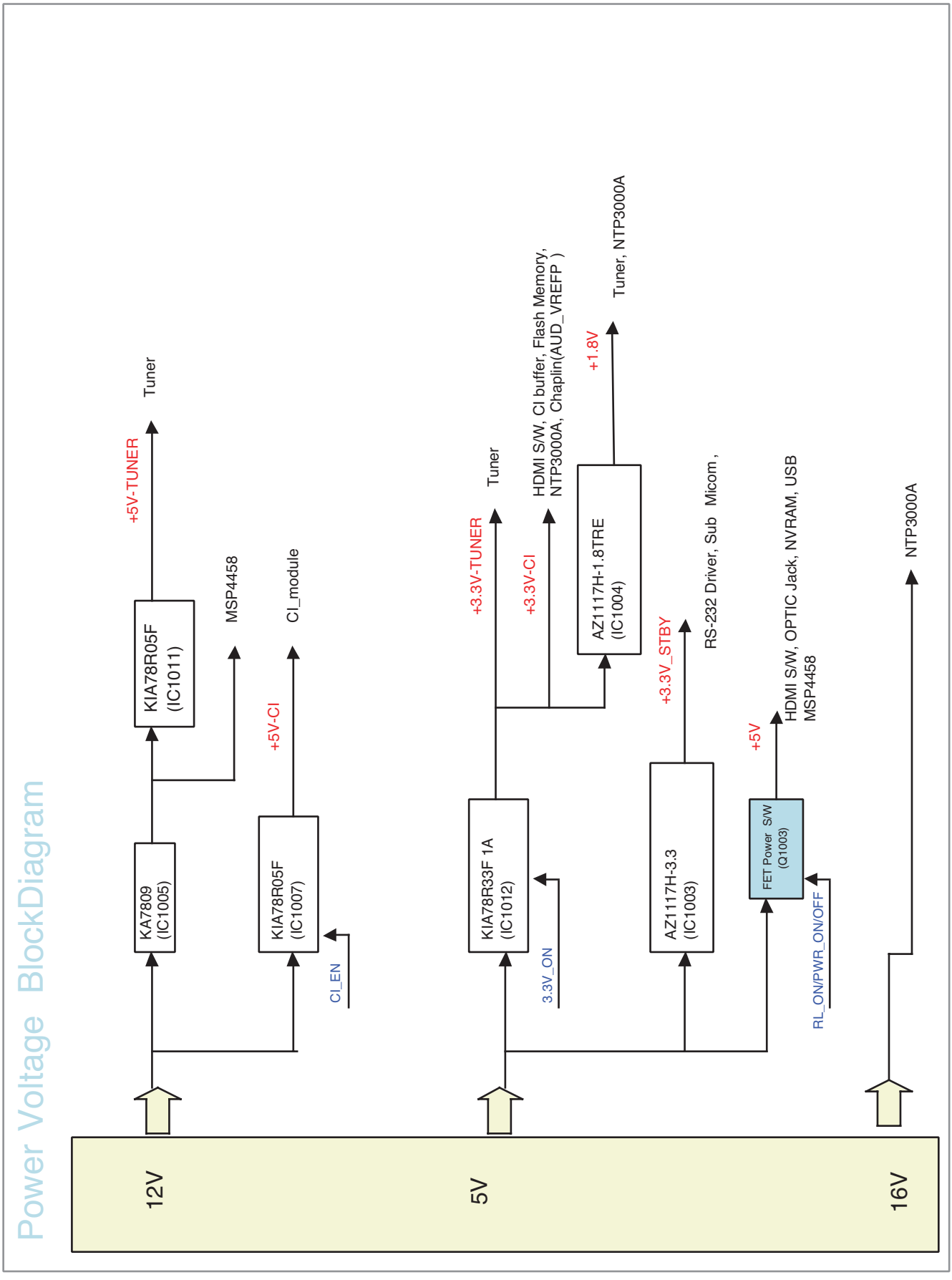


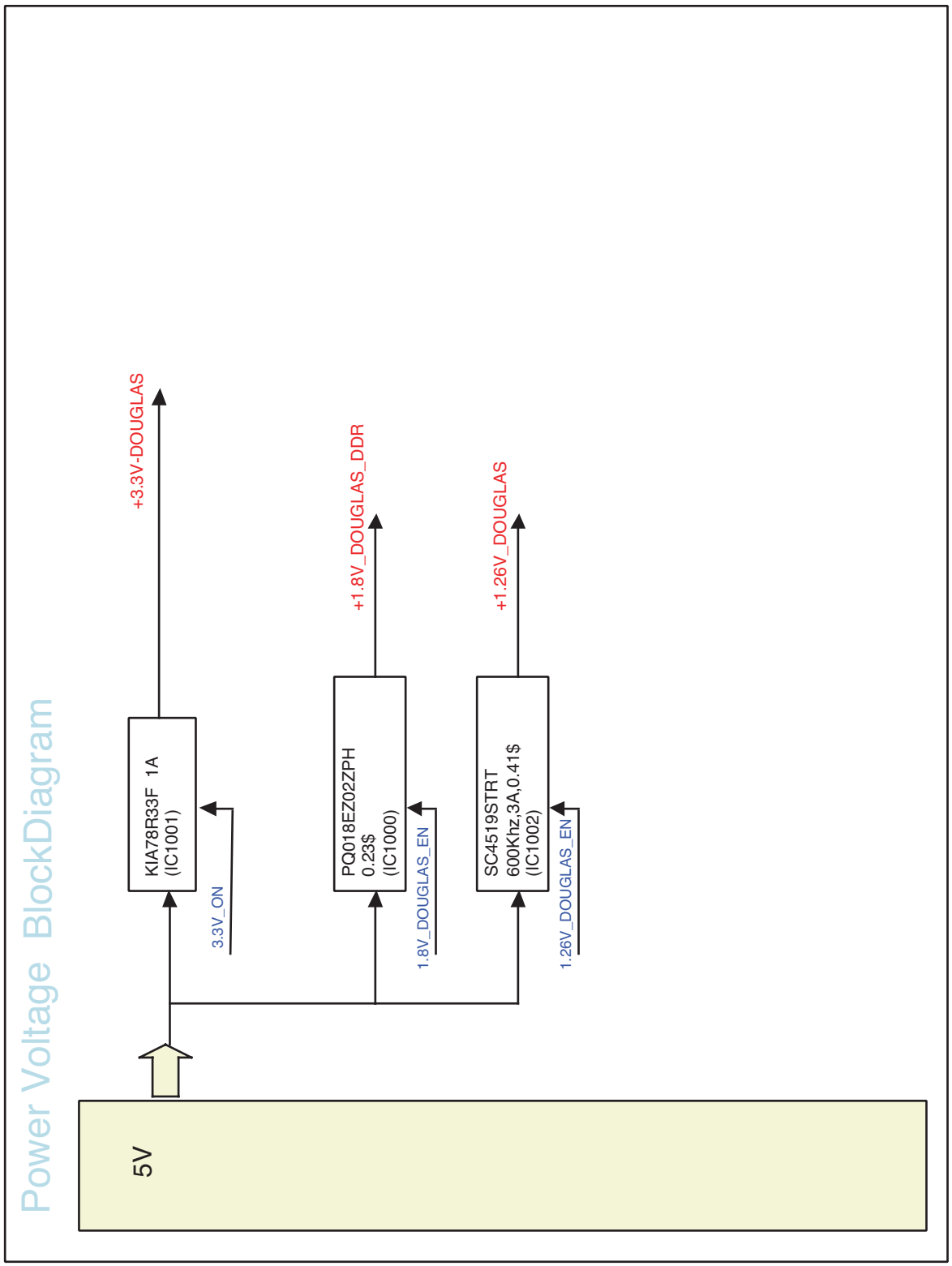






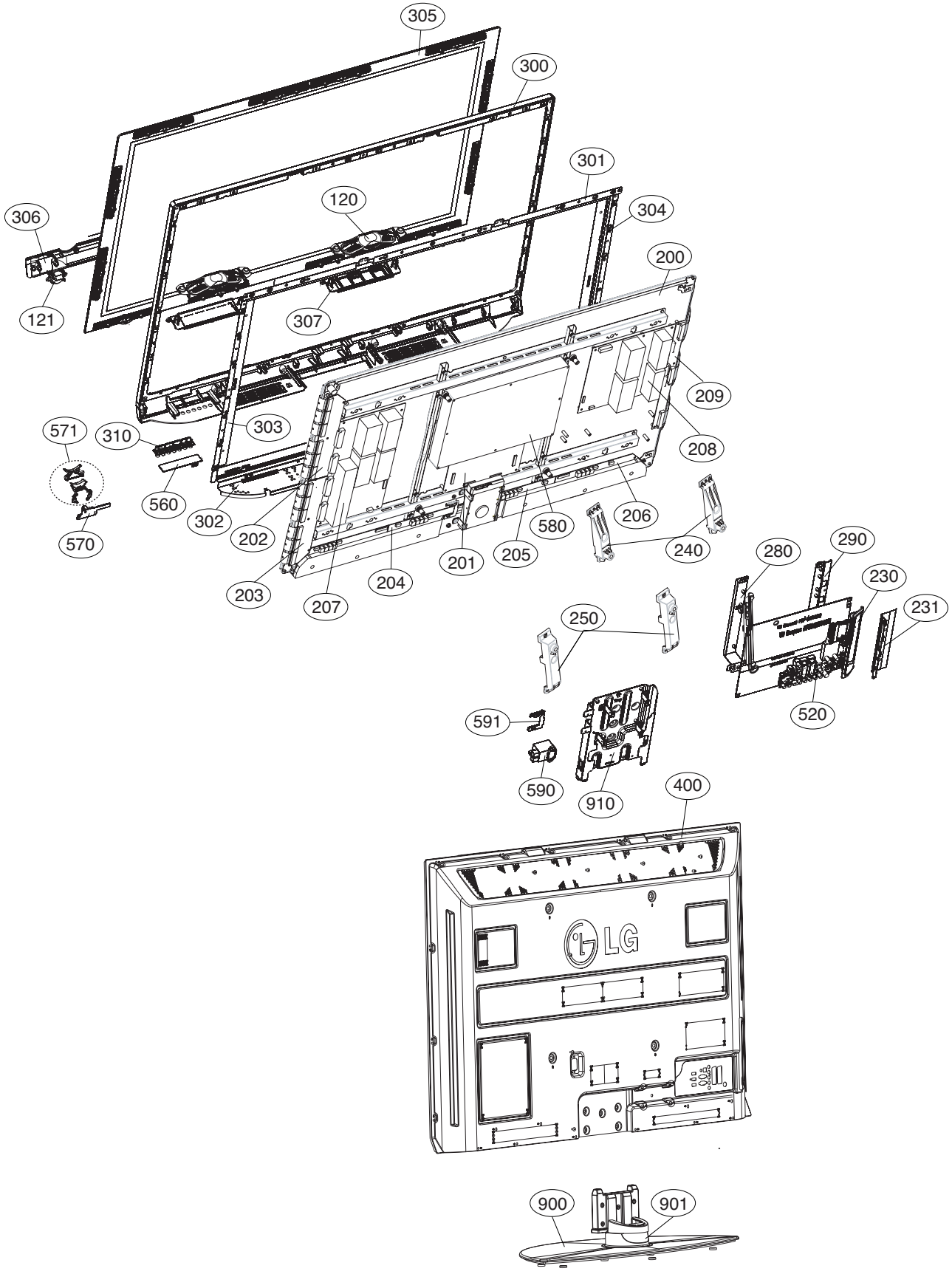


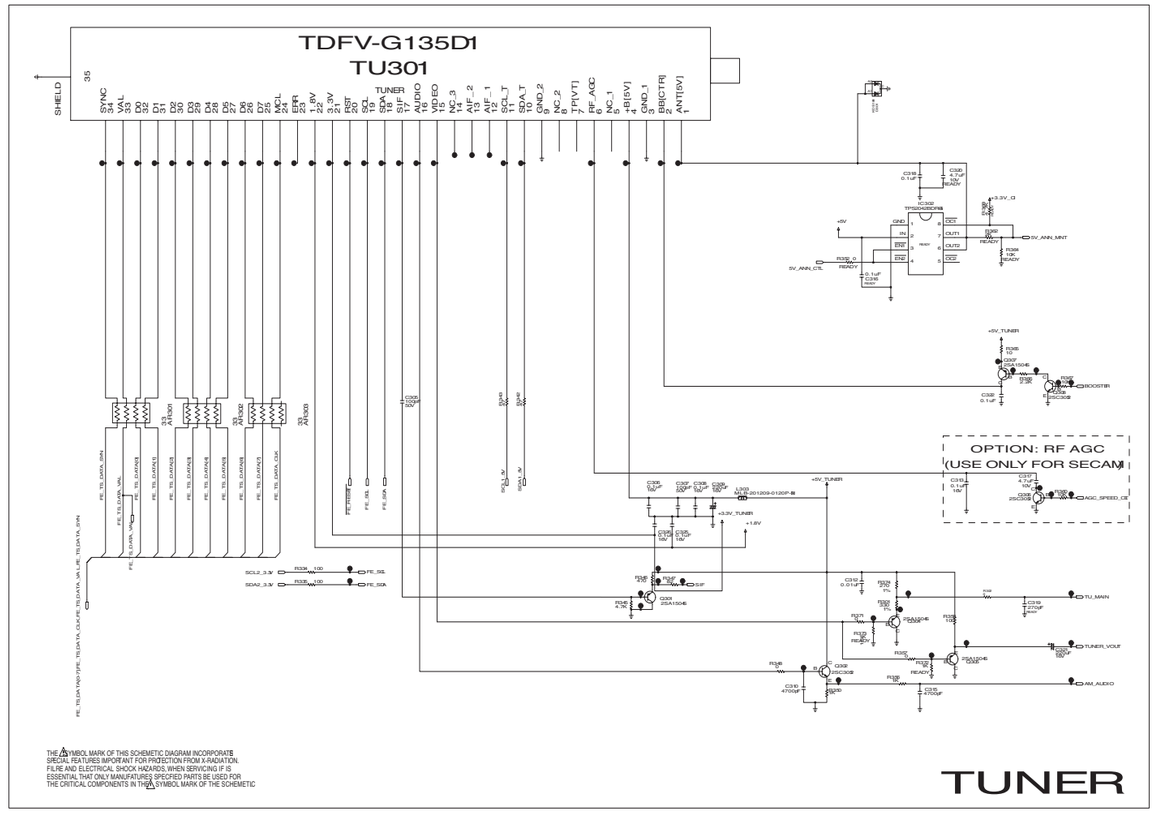




MEMO

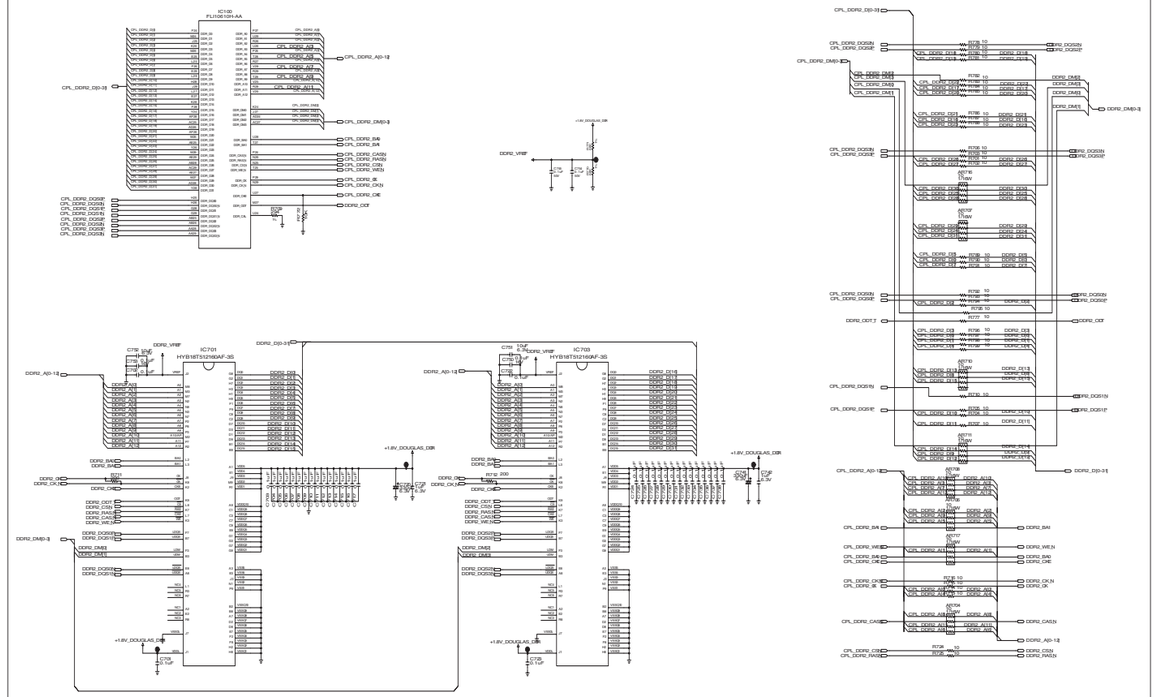
EXPLODED VIEW





THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES
SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION.
FILRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IF IS
ESSENTIAL THAT ONLY MANUFATURES SPECIFIED PARTS BE USED FOR
THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC

TUNER



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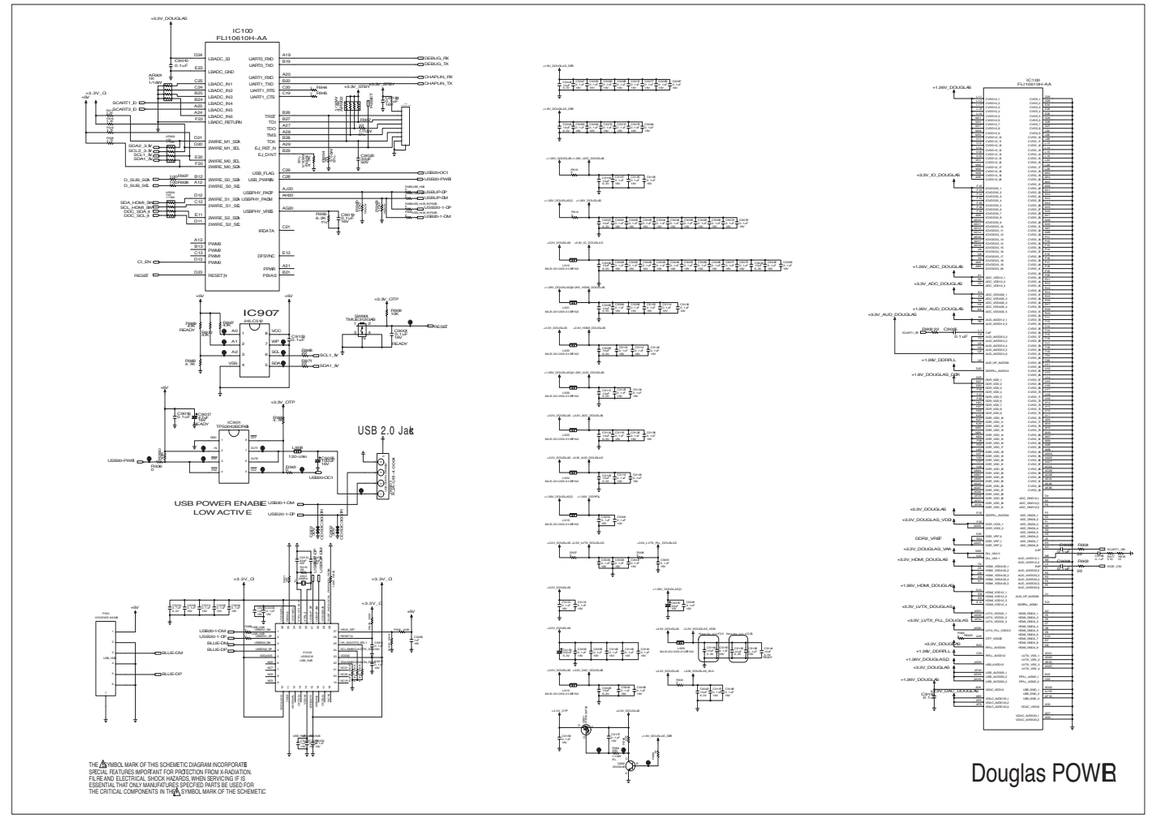
DDR2



THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES
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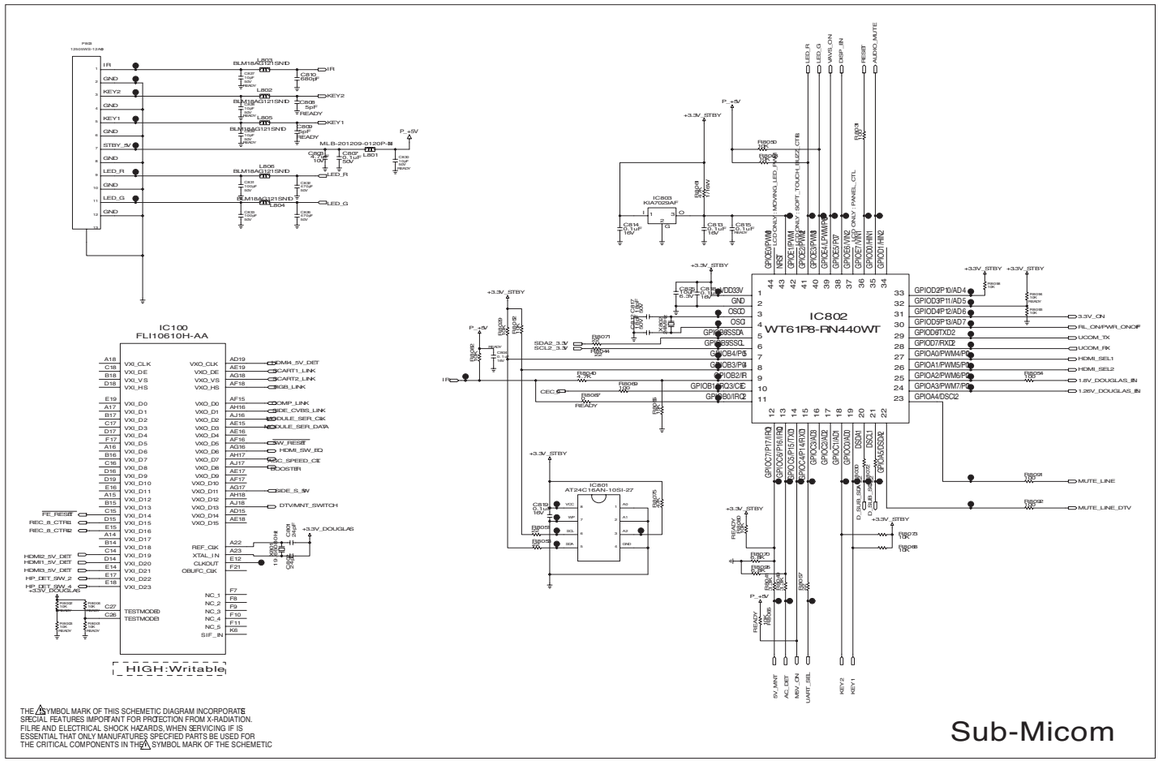
THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC

Douglas POWER



THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES
SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION.
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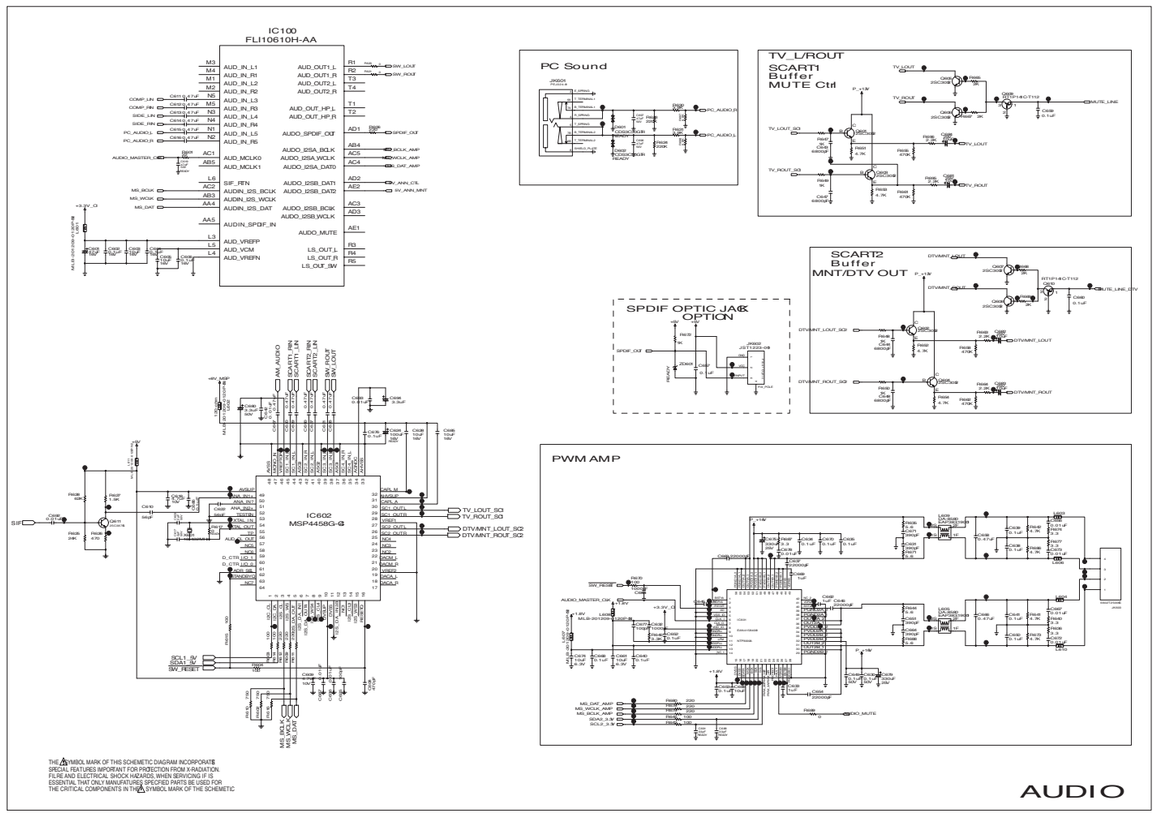
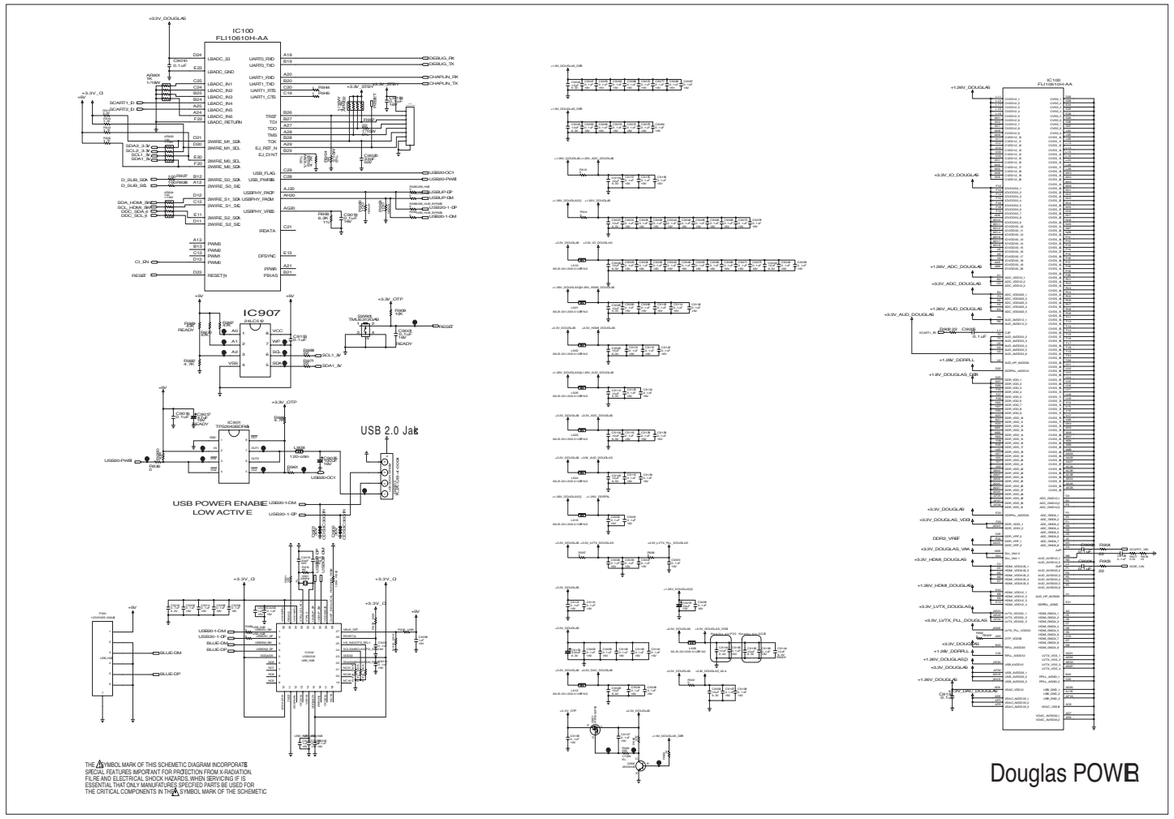
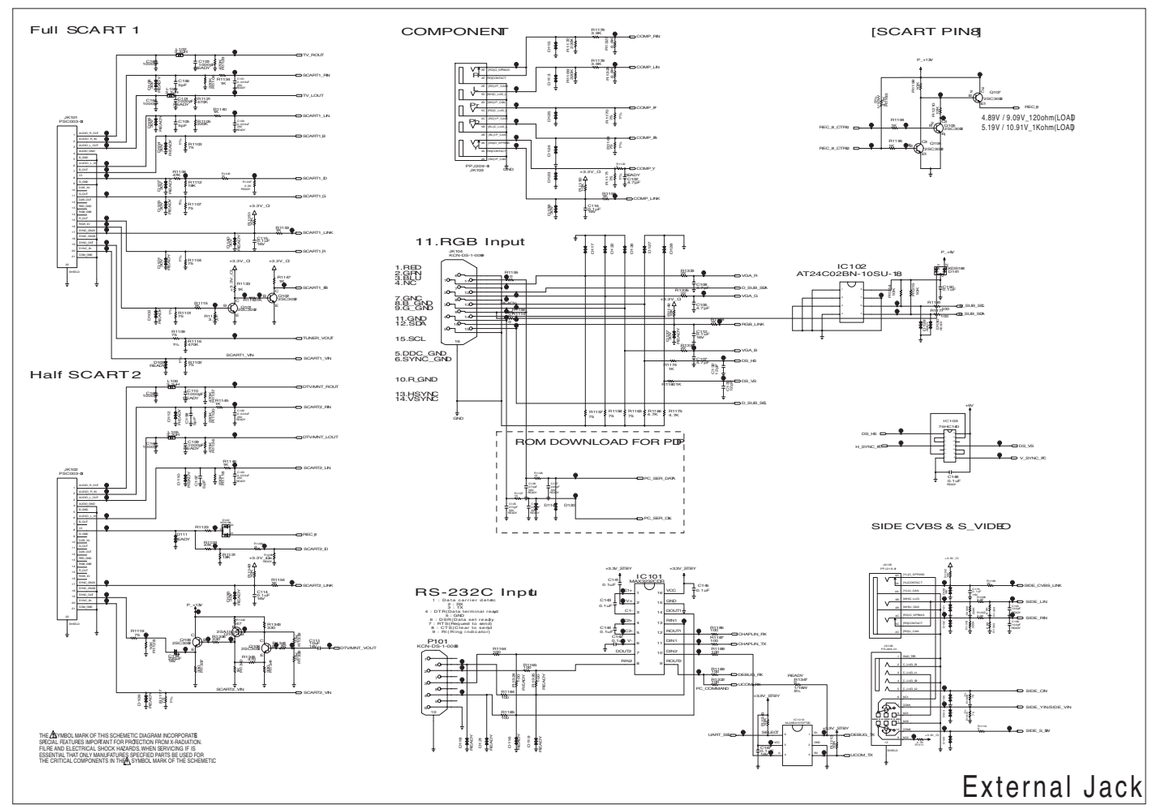
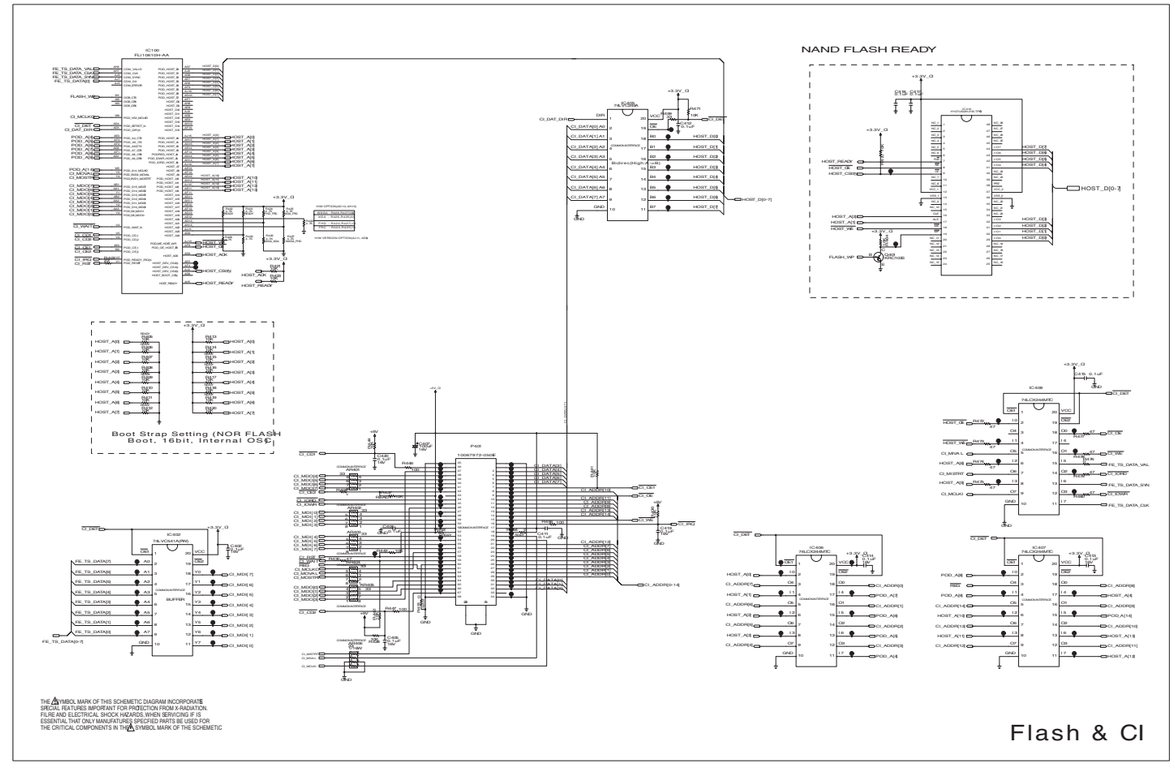
THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC

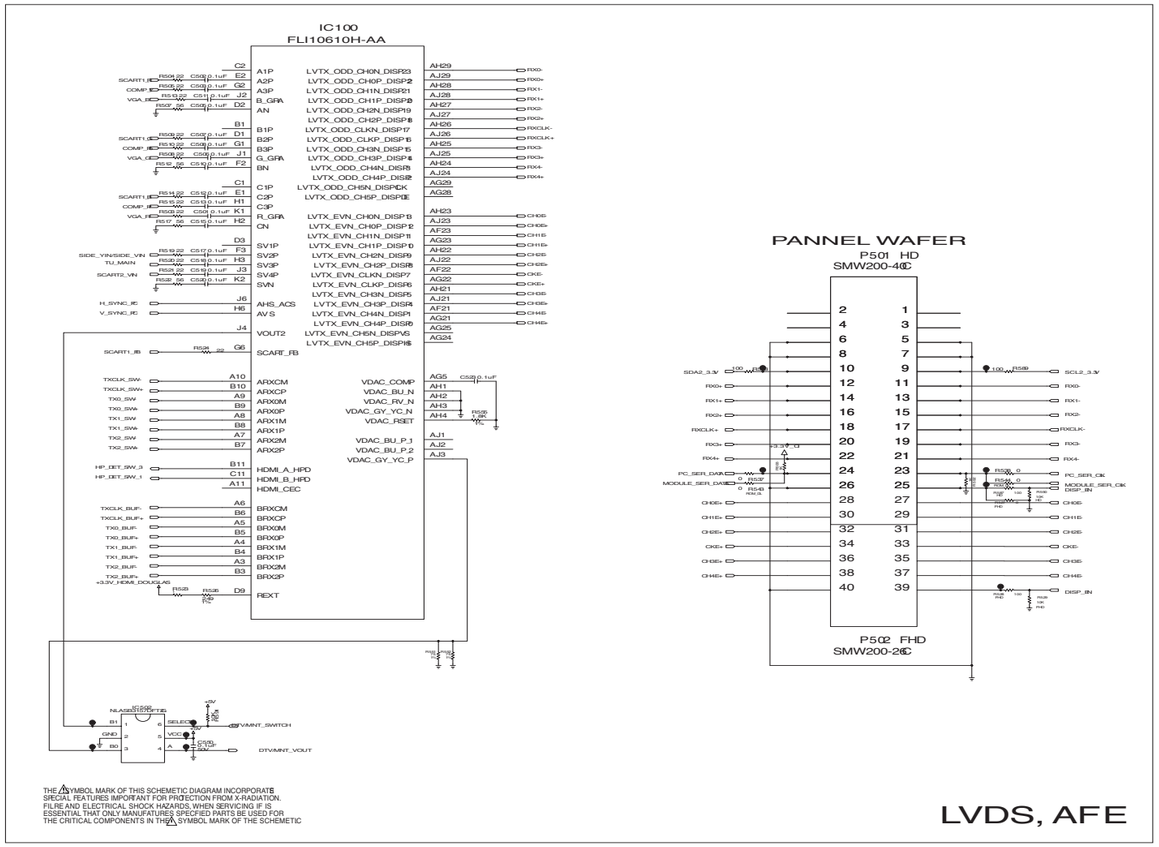
Sub-Micom

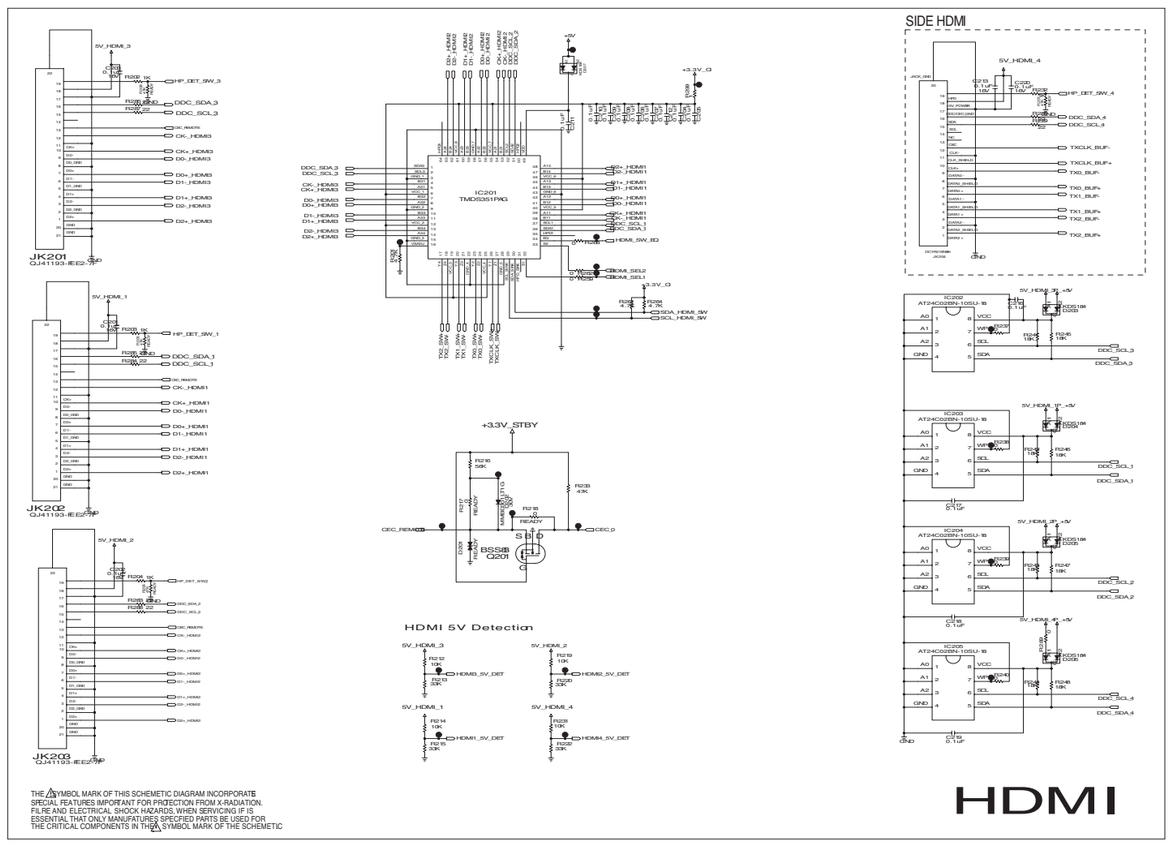






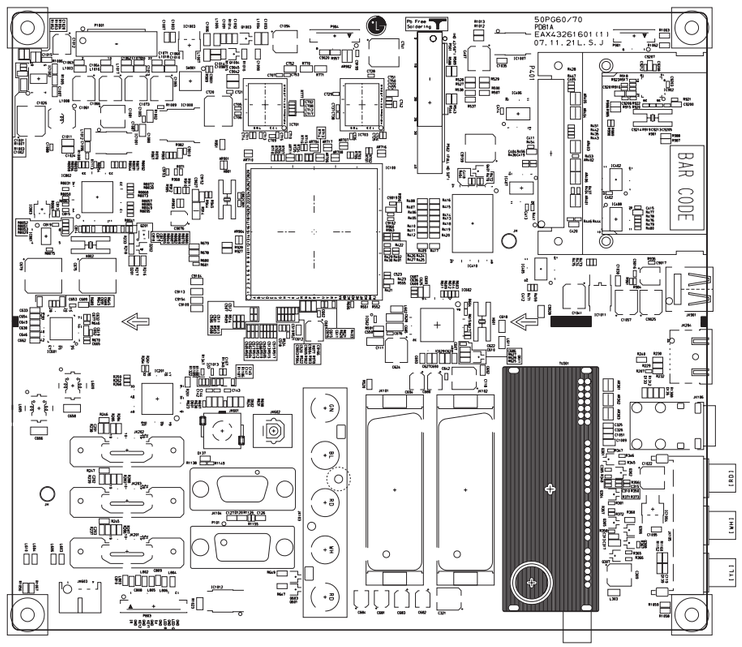




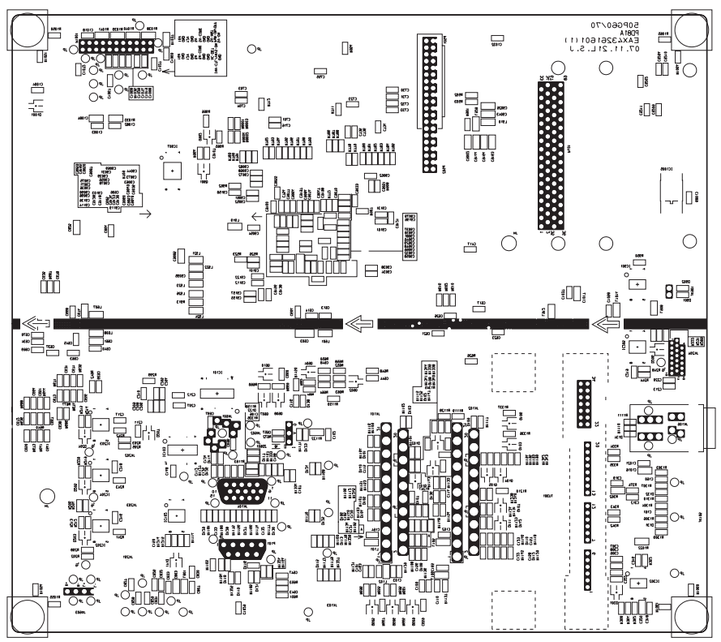


PRINTED CIRCUIT BOARD

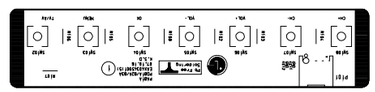
MAIN(TOP)



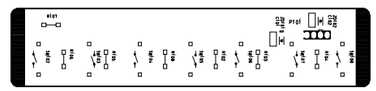
MAIN(BOTTOM)



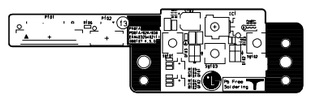
Control B/D(TOP)



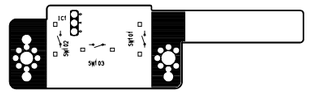
Control B/D(BOTTOM)



PREAMP B/D(TOP)



PREAMP B/D(BOTTOM)



LG Electronics Inc.

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